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MAY 1987 VOL. 9 NO. 5
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THE MAGAZINE FOR SAFER LIVING

GUIDE

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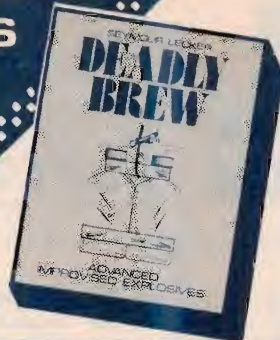
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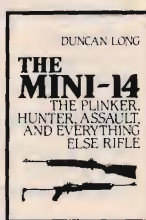
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AMERICAN SURVIVAL GUIDE

VOLUME 9, NUMBER 5 MAY, 1987

THE MAGAZINE FOR SAFER LIVING

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Eureka Crescent one-person tent weighing 4 pounds is 6 feet 10 inches across and 3 feet 6 inches high.



LEFT—A 10- by 10-foot L.L. Bean trail tarp rigged as a modified Baker shelter, seen from the inside. Outside is camouflage color to blend in with surrounding woods.



ABOVE—Here is a G.I. poncho and a section of nylon parachute canopy, both of which are fairly good expedient shelters.

LEFT—The author's son rests in a Marmot Mountain Works "Burrow."

Lightweight Solo Shelters

Tarps, ponchos, bivy sacks, mini-tents can provide shelter in places where it's difficult or impossible to construct shelter from available materials . . .

By Edward Brown

THOUGH the accomplished woodsman certainly has the skill to come up with a shelter for the night made from Mother Nature's material found around him in the wilderness, he may find himself traveling through country so barren there is nothing he can use for a leaf hut, lean-to, or whatever. He may also be in a rush, walking the day out almost to the night, leaving him no light for materials foraging.

In such cases he or she would be well advised to have a shelter on the back—not quite like a turtle, but tucked into a ruck ready to go when needed.

Lightweight solo shelters probably started with the old timey backwoodsman's friend, the 10 by 10 tarp, a good bet for overnighting in forested areas when insects aren't on the wing. One big advantage of the tarp is that it can be put up in a variety of ways suiting the weather or whim of the trekker.

Rigging the tarp in a Baker-type configuration will allow for a fire with a reflector in back of it to push some heat into the tent. A "miners'" tent mode will make for headroom, if that is what is needed. The tarp can also be set up in the classic A shape, with part of it doubling as a groundsheet. A tarp can be pressed into service as a poncho, clothing supplement, used to make a raft, or a wrap for items lashed onto a packboard. Admittedly, the originals weren't very lightweight (nothing was in the old days), but new models of coated nylon don't make for backbreaking loads.

For the maximum in protection and the minimum in weight, however, the solo hiker has to look to the so-called bivy bag. These things evolved from sleeping bag covers a few years back just about the time

Gore-Tex came in. Many of them employ this miracle fabric for the top section, so the problem of wicking out moisture from a sleeping body can be addressed with efficiency. The bottom is usually waterproofed nylon in a bathtub cut.

There are now all sorts and shapes of bivy bags, but most feature a zip or button up closure all around for making it through foul weather nights, and a netting closure for clear or warm evenings. Snuggled down in a bivy sack with the closure zipped up, the hiker can doze off without a care for wind or rain. I once used my Marmot Mountain Works "Burrow" in a driving fall rain with the temperature hovering around the freezing mark in the White Mountains of New Hampshire. I had a lightweight sleeping bag—only one and one half pounds of goosedown as insulation—but in the Burrow I was warm, dry, and as snug as a bug in a rug. Getting up and at 'em in the morning was another questions, however.

The standby GI poncho rates a good word as a mini-shelter. There's not much to the poncho, but if it's rigged directly against the wind and wet it can go a way toward keeping one fairly dry. A better bet is to tote two of these very lightweight items, snap them together when the need arises, and rig in any number of convenient configurations.

The older shelter half, a relative heavyweight, is superior to the poncho in that it has end flaps which extend some distance. These can be drawn in at right angles to the long side of the shelter to provide some decent side protection. Used in twos, the shelter halves button up fore and aft and make a quite weatherproof canvas hootch.

The solo foot traveler might also con-

sider a step up from tarps, ponchos and bivy sacks. What about a lightweight, one-person tent?

There are some of these around, and for an additional couple of pounds in weight, they might well be worth carrying. If the trekker runs into weather which keeps him immobile for a day or more, sheltering in a weatherproof "house" with just a bit of room to stretch in, sit up and read, mend gear, or whatever would be certainly more bearable than being flat or supine in an enclosed space as small as a coffin. As a matter of fact, the savvy hiker who anticipates extended showers (in the Pacific Northwest, for example) would rightly regard a mini-tent as an outright necessity.

And the weight of modern singles tents is slight. My special preference is for the Eureka Crescent, a four-pound piece of gear with its own aluminum rod support system, top fly which covers a breathable roof, and either a full closure zip up or an entire side open to the stars—but closed to insects by reason of a big mosquito net.

The Crescent is aptly named: it is in the curve of a scimitar, a great wind-shedding configuration. The aluminum tubes which come with the Crescent are shock-corded, and the tent is free standing: it needs no lines or nearby trees for setup.

The Eureka folks frown on cooking inside the tent, but in nasty weather one can unzip the closure and lean out to prepare food over a field stove perking away outside. The fly allows for this with its generous overhang. The sides of the Crescent are a deep burgundy, but what one sees most of is the fly, colored in a terrain-blending slate-grey not likely to attract the attention of the nosy. ●

TO THE POINT

Driving safely: How about you? . . .

A journalist friend here in southern California on an assignment for his newspaper back east, sent off a dispatch in which he described the area as a "land of endless parking lots some call freeways."

I thought it was an apt description of our roadways, which are always choked and swollen with traffic during the weekday rush hours and, often, even on weekends when so many people are out and about.

While there are people who refer to southern California as "paradise" and "God's country," those of us suffering from the terrible traffic, overcrowding, pollution and crime know that "paradise" leaves something to be desired.

Traffic is a prime concern among people here, what with lower gasoline prices and the enormous and never ending influx of people coming here to find a new life for themselves and economic opportunity. Real estate developers and builders, spurred on by the tremendous market for housing, are creating an expansion of new homes and apartments, now that interest rates have declined sufficiently. There simply aren't enough roads to handle the ever increasing volume of traffic, and the pressures and strains on drivers this situation produces are obvious.

The Los Angeles police recently reported that traffic problems have been attributed to quite a number of arguments, fights and even killings on the roadways. In one incident, for example, two men were shot to death by another man who had been arguing with them after some type of traffic incident. The victims and their assailant had stopped their cars and gotten out on a street. The assailant reportedly went to the trunk of his car, drew a gun and shot the two men and then sped off. He was not apprehended.

Being forced, due to my particular circumstances, to drive a lot each workday, I have been involved in several incidents myself in which hostile drivers, usually men, have rudely and dangerously tailgated my car at high speeds, cut in front of me or come close to smashing into my car. Why are these men, sometimes even older men in expensive cars and wearing business suits, so intent on killing themselves and me?

Is it the stresses of their daily lives—the heavy traffic included—which lead them to speed and bully other drivers? Maybe some of them are strung out on drugs. Maybe some are having marital problems. Maybe some are just stupid bullies out to prove their manhood to themselves on the

highways. For whatever the reason, such behavior is inexcusable.

My problem with these freeway tough guys is not letting them goad me into responding to them in typical macho male fashion by trying to one-up them—cutting *them* off or getting ahead of *them* at all costs.

I'd be lying if I said this hasn't happened. Maybe I've got a chip on my shoulder. I've always hated being pushed around. But I've got a very good driving record. Virtually no accidents. And only one ticket—for running a red light—in the last six years. I've got too much going for me to let some idiot draw me into doing something silly and childish that puts myself or others in danger.

Lately I've been pretty successful at letting the big men go by me when they pull their shenanigans, and not letting it get to me. But I've seen this same type of behavior while traveling in many parts of the country over the years: on the Capital Beltway outside Washington, D.C., on Route 80 outside Omaha, Nebraska, in the hills of Pennsylvania, and many other places. There are some very rude, stupid and unthinking drivers out there who put other drivers in danger and cause accidents, injuries and death on the nation's highways every day.

What are we to do about the bad drivers? Well, we can certainly support laws requiring tough sentencing for serious and repeat offenders on the highways—the ones who get caught. We can support moves for hiring more police to patrol the roads and highways, but there will never be enough cops to catch *all* the bad guys on the roadways.

Taking matters into your own hands to get even with the offenders is definitely not the correct course to follow, as this will inevitably lead to more accidents and more injured and dead people.

Driving defensively and carefully—watching out for the other guy is the sensible procedure. And, of course, practicing driving courtesy yourself while behind the wheel can help greatly in reducing traffic accidents and confrontations with other drivers.

So the next time you're out on the highway, or just driving to your local grocery store or wherever, remember to keep your speed down, obey traffic laws and, above all, keep your cool. The objective is to get from point A to point B alive and intact, not to become a statistic—*Jim Benson*.

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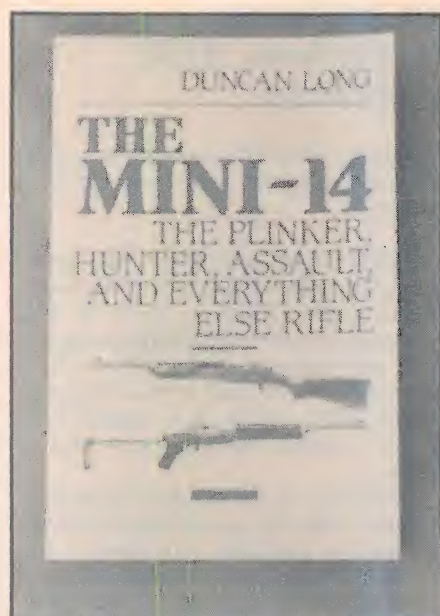
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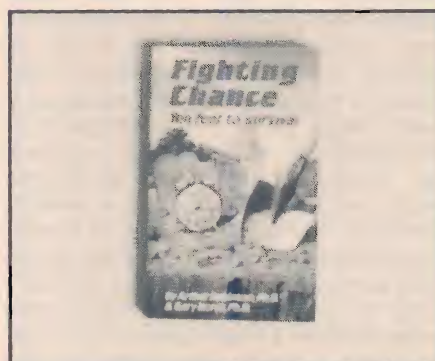
BOOK REVIEWS



The Mini-14, The Plinker, Hunter, Assault And Everything Else Rifle, by Duncan Long; Paladin Press, Dept. ASG, P.O. Box 1307, Boulder, CO 80306; (303) 443-7250; 114 pages, paperback; \$10 plus \$3 postage and handling.

"The Mini-14 is the most versatile modern rifle—descended from the M1 Garand and M14, though with none of their faults—fitting the needs of homeowners, hunters, survivalists, law-enforcement agencies, and military forces equally," according to a statement on the book's back cover. "With 16 models of the Mini-14 to choose from, the rifle owner may construct an infinite number of variations in the Mini-14 through accessory kits such as standard, laser and night scopes; magazines; folding and pistol-grip stocks; bullpup conversions; multi-caliber adaptors; flash suppressors; silencers; and slings. Here is the history of the Mini-14, descriptions of its factory-produced variations, specifications, available accessories, major suppliers and much more." The author, a frequent contributor to this magazine, has long been a Mini-14 fan. He points out in the first chapter on the history of this rifle that Sturm, Ruger & Co. "took great pains to debug" the rifle before offering it for sale. The Mini-14 is based on the proven designs of the M1 Garand and M14 military rifles. Even the Soviet AK series rifles, Long states, have many parts copied from the Garand action. "So, strange as it may seem, the AK series of firearms are, in fact, sister rifles to the Mini-14." In clear, easily readable style, the author details the history and development of the Mini-14 family of rifles, care, maintenance and

troubleshooting and accessories available. The book is well illustrated with many good black and white photos. An appendix lists manufacturers and distributors of the rifles and accessories and publishers of material dealing with the Mini-14. This book is a must for the Mini-14 owner and firearms aficionado.



Fighting Chance, Ten Feet To Survival, by Arthur Robinson, Ph.D., and Gary North, Ph.D.; Oregon Institute of Science and Medicine, P.O. Box 1279, Cave Junction, OR 97523; 289 pages, paperback; \$5.95.

Civil defense is boring, the authors state. "It's boring until the day the air raid sirens sound, and you finally ask yourself the 64-billion-dollar question: 'What do we do now?' It's obvious what you'd do *today* if the warning is real and there really are 10,000 Soviet nuclear warheads on the way. *You would probably die.* You would die because America doesn't have any civil defense. It also doesn't have any anti-missile defense. All we have is the threat of nuclear retaliation against the enslaved people behind the Iron Curtain, and even that threat is no longer believable." The authors and their books are here to tell the reader "*it doesn't have to happen.*" they say. "There is a way to change the catastrophic outcome. The civil defense shelters recommend in this book would also protect the American people from fallout from nuclear power plant accidents, tornados, future chemical or biological accidents or warfare, and some types of terrorist threats. . . . Insurance against accidents and natural and terrorist threats justifies a civilian shelter system. The Soviet military threat, however, justifies it 1,000 times over." Although they at times couch their perspectives in religious terms, the authors make a case of civil defense for readers concerned about nuclear war, whatever their religious preferences. The book is composed of four main parts and a conclu-

(Continued on page 16)

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SURVIVAL LINE

Bill to ban mail order ammo, volcano preparedness, MRE-related illnesses, AIDS deaths predicted in tens of millions . . .

IN the March issue of *ASG*, Survival Line had a story regarding recent changes in the 1968 Gun Control Act which allow individuals to purchase ammunition by mail. The mail order ammunition provision of the 1986 Firearm Owners Protection Act is now in jeopardy. A bill has been introduced in the House of Representatives by Congressman Mario Biaggi, D-NY, that would ban both the ordering of ammunition by mail and the delivery of ammunition by private parcel services. Mr. Biaggi has already been able to stop the U.S. Postal Service from instituting a new service which would have allowed U.S. mail deliveries to individuals of up to 65 pounds of small arms ammunition at a time. Currently a citizen is allowed to order ammunition by U.S. mail, but the order must be delivered by private parcel carrier.

Volcanoes And Survival—People "just are not concerned." That's how Dr. Kevin Scott of the Cascades Volcano Observatory described current attitudes toward the possibility of a volcanic disaster in the U.S. Pacific Northwest.

Speaking before a conference of experts at Hilo, Hawaii, in the shadow of the Kilauea Volcano, Dr. Scott and other experts warned of the threat posed by volcanic mud slides, lava flows, and resulting earthquakes, to cities such as Portland, Oregon, and Tacoma, Washington. It was just such a volcanically induced mud slide that killed more than 21,000 people in November 1985 in the Colombian city of Armero.

According to Dr. Scott the Mt. St. Helens volcano could induce a mud slide, technically known as a "lahar," that could break open Spirit Lake, located at the base of the volcano, and result in a cascade of mud which could threaten the city of Portland.

The conference also focused on methods which might be used to divert volcanic lava flows which threaten populated areas. One method, used in the 1935 and 1942 eruptions of the Mauna Loa volcano in Hawaii, involves bombing the channels created by the lava flow in an effort to alter the natural flow patterns of the lava. Other methods of diverting flowing lava use the injection of high pressure water into the flowing lava to create steam pocket explosions to divert the flow.

The conference ended with participants calling for increased monitoring of volcanoes located near population centers, and

continued research in methods to predict volcanic eruptions and their consequences.

MREs—Many survivalists have incorporated the new military rations known as MREs, (Meals Ready to Eat), in their emergency kits and food storage programs. Both survivalists and the military have adopted MREs because of their long storage life, light weight, and superior taste to the previous military staple—the C ration.

According to a recent report on the ABC television show 20/20, the MRE program has run into problems. A number of suspected MRE-related illnesses has prompted a government inquiry into the manufacture and storage of MREs. In May 1986 the military removed all MREs from the field pending the results of their investigations into the safety of the meals. In November MREs were again released for general use, the Pentagon insisting they were safe to eat.

Since MREs replaced C rations some years ago, almost 76 million of the meals have been consumed. Only a very small number of food poisoning type illnesses have been reported. The symptoms in these cases ranged from stomach cramps to vomiting and diarrhea, and usually lasted from 12 to 24 hours.

If you use MREs in your food storage program be sure to heed some simple rules. 1) If the MRE package is bloated, **DO NOT EAT THE MEAL**—it has become contaminated with bacteria. 2) If the MRE package leaks or has a visible hole in it—**DO NOT USE IT**. 3) If when opened, the MRE has an "off" smell, throw it away. 4) Should you become ill after eating an MRE save the package if possible, and contact the U.S. Department of Agriculture.

AIDS Predictions—"If we can't make progress, we face . . . a worldwide death toll in the tens of millions a decade from now." So spoke Dr. Otis R. Bowen, the Secretary of Health and Human Services, in a recent speech to the National Press Club. Dr. Bowen predicted that the AIDS epidemic will easily dwarf the death tolls of the Plague, smallpox, and typhoid epidemics of years past. In his speech Dr. Bowen emphasized the need for continuing education in "safe sex" techniques, and an increase in funding in anti-AIDS research. For more on the latest AIDS developments see *ASG* 2/87, p 76. ●

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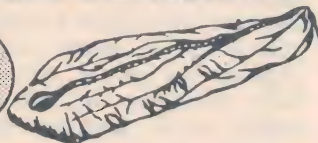
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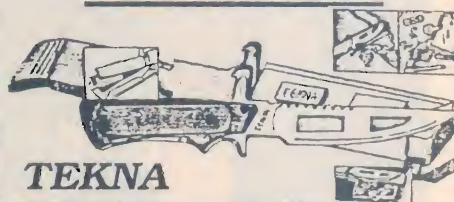
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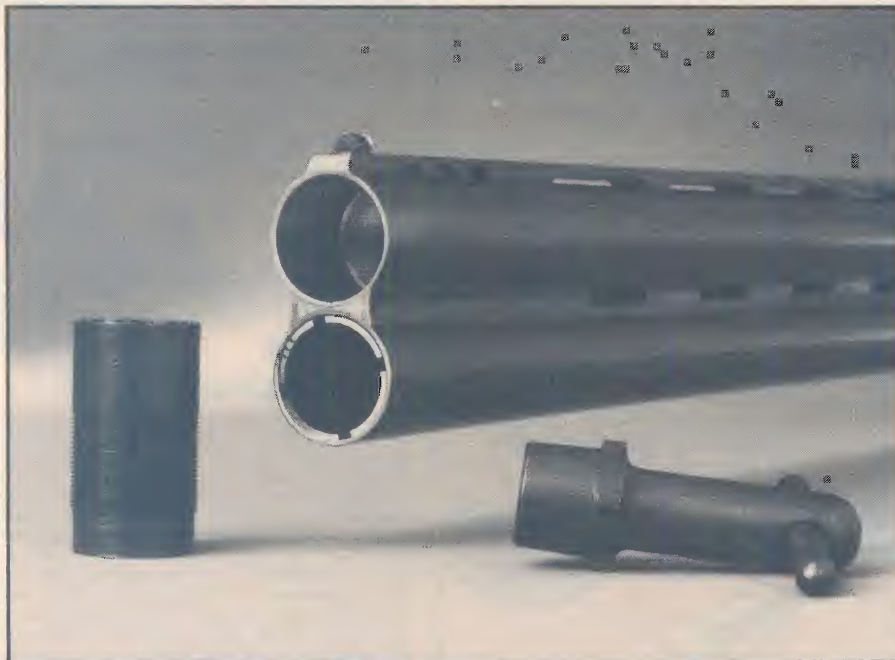
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applicators, 14 yellow ointment capsules, one boric acid solution 4 ounces, one boric acid powder 2 ounces, one set of nail clippers, one pair of tweezers, and six moist towelettes. All items are sterile except where specified. Included are explanations for use of each item. The Field Dog First Aid Kit is available for \$59.95 from Backpackers and Survivors Supplies, Dept. ASG, P.O. Box 64770-537, Los Angeles, CA 90064. Send \$4 for a catalog of other products for survival. California residents add 6 percent sales tax.

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Winchoke tubes will be available in skeet, improved cylinder, modified, improved-modified, full and extra-full. A newly engineered wrench makes tube switching quick and easy. For more information, see your gun dealer.

New Swarovski Catalog



Swarovski Optik has issued a new full-color catalog. The 32-page catalog showcases the company's entire line of binoculars, telescopic sights, spotting scopes, telescopes and accessories. It highlights the recently introduced SLC line of compact binoculars. Swarovski Optik's latest catalog features technical specifications as well as descriptions and diagrams. Catalogs and a separate dealer price list are available by contacting Pamela Holmes, Swarovski America Ltd., Dept. ASG, One Kenney Drive, Cranston, RI 02920; (401) 463-6400.

Home Radiation Warning



Threshold Technical Products, Inc. announces the release of a new home radiation warning receiver called SURVIVOR. The product plugs into any 110 volt outlet detecting alpha, beta, gamma rays, x-rays, and high levels of radon gas. For continuous protection during a power outage, SURVIVOR has a built in rechargeable battery. As a smoke detector sounds an audible alarm when the presence of smoke is detected, SURVIVOR sounds an aud-

ible alarm when it detects a significant increase in the level of radiation. The product is aimed at those who want advance warning of a nuclear incident, which might occur near their home, involving; a nuclear reactor, a processing plant, or an accident involving trucks or trains carrying radioactive products or contaminated waste. It can be purchased in Ohio by calling 513-530-5242 or outside Ohio by calling toll free 1-800-458-4931. The price, including postage, is \$185.00 (in Ohio add \$10.18 sales tax).

Ultralight Barrel Kit



Ram-Line introduces an accessory kit for the Ruger 10/22 which allows the barrel to be removed with a twist of a screw for "instant" conversion. With this kit, the 10/22's proven reliability becomes compact and portable, like the Charter Arms AR7. Ideal for backpackers, survivalists, and pilots. There is no gunsmithing required—all you need is a hex wrench and screwdriver. And it won't shoot loose, even with thousands of rounds. Further, your gun is easily reconverted to its original factory condition. List price is \$26.95, Item No. TDK 1122. In addition, Ram-Line offers an Ultralight 16-inch Barrel that fits the 10/22. Made of composite material with a steel alloy liner, it provides 50 percent weight reduction for the ultimate in portability. List price is \$38.95, Item No. BBL 1622. For an unusual appearance, add Ram-Line's new AR15/M16 "Lookalike Sights" to the 10/22. These sights use an easy snap-on assembly

that elevates the sight plane, provides a carrying handle with an integral dovetail for scope mounting and includes a rear peep sight. List price is \$19.95, Item No. FRS 1022. The above three items plus nylon Carrying Case, list \$95.95, Item No. TDZ 1099. Patents pending. Ram-Line, Inc., Dept. ASG, 15611 W. 6th Avenue, Golden, CO 80401.

Delta HBAR



Colt Firearms is introducing their new AR-15A2 HBAR special applications model called the Delta HBAR. It is designed for law enforcement use, answering the requirement for an accurate rifle with

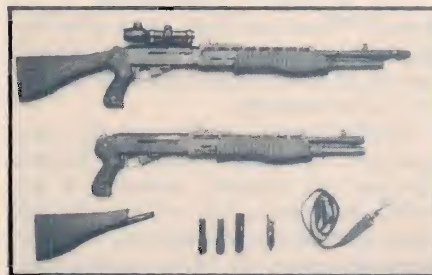
quick multiple targeting capabilities.

Colt's Delta HBAR model utilizes the new .223 caliber, semi-automatic HBAR with its stiffer, heavy barrel and enhanced M16A2 military features. To it, Colt has added a rubber armored 3 x 9 zoom scope which is tightly mated to the rifle with a quick mount. A removable cheekpiece raises the shooter's eye to the scope and a black leather military shooters sling completes the gun which will come in a black fitted carrying case.

The Delta HBAR's optics and cheekpiece were selected for shooters' comfort during long holding positions, as well as for quick recovery, for effective 2nd and 3rd shots.

The outfit also has obvious civilian use in varmint control and will be available to police departments and hunters in early 1987. The entire package will retail at firearm dealers for \$1,295.

New SPAS 12 Accessories



The SPAS 12 is the only shotgun to combine both pump-action and semi-automatic firing systems. Designed originally for police and military use to be both safe and practical, the SPAS 12 has a capacity of 8 rounds making it the choice of practical shotgunners all over the world. Weighing in at 9.6 lbs. overall, the SPAS 12 generates very little muzzle rise. You will appreciate the way the SPAS 12 holds on target. The SPAS 12 is exactly what it looks to be . . . THE ULTIMATE 12 gauge RIOT GUN! The SPAS 12 has a folding riot stock for rapid firing from the hip and is equipped with a carry handle which becomes a special arm brace for one handed shooting in the semiautomatic mode. For a lifetime of maintenance free use, the SPAS 12 comes with a parkerized finish on all metal parts. The chrome lined barrel provides an extended barrel life. Both the forearm and pistol grip are constituted of nylon resin making them nearly indestructible. The SPAS 12 is available with these Accoutrements: Full or modified choke tubes, Diverter tubes, Wrench tool, Scope mount, Fixed wood stock. Contact F.I.E. for more information or write for FREE color catalog: F.I.E., P.O. Box 4866, Dept. ASG, Hialeah, FL 33014.

Combat vs. Sport:

Point Firing To Save Your Life

Close-quarters battle means distances between attacker and defender measured in a few feet . . .

By Bradley J. Steiner

The author is a combat martial arts teacher who instructs in unarmed and armed fighting techniques at his Academy of Self-Defense in Seattle. He may be contacted at Academy of Self-Defense, 7407 25th Ave. NE, Seattle, WA 98115; (206) 523-8642—The editors)

COMBAT and self-defense shooting with the one-hand gun falls under the heading of *close-quarters battle technique*, insofar as proper categorization is concerned. When you think about what that implies, you get the feel for the appropriateness of point firing as the right method of combat shooting.

Close-quarters battle *means* close quarters. It means distances between attacker and defender measured in feet, rather than yards, most of the time. And when we do measure it in yards it is never more than seven. Or, close-quarters battle means hand-to-hand. What close-quarters battle does *not* mean is distances of 50 feet or more.

When we see or read about, or participate in, so-called combat shooting matches, we often find that the distances with which we deal are unrelated to the distances of realistic close-quarters battle. We see participants engaging targets over spacious areas. They use aimed fire (as one clearly must, under such circumstances) and they deal with tactical situations that just do not occur in real life. All of that is great fun, to be sure; but this type of shooting has very limited use or value in preparing for serious combat.

We know for sure that combat with handguns in the real world, between victims (civilians or police) and criminals characteristically occurs at distances under 21 feet. Almost always, in fact, distances are less than 10 feet. Yet, the notion that aimed firing at opponents in close combat is feasible continues to dominate modern combat shooting theory. This was not always the case.

During World War 2 when there was no time for the weekend warrior shenanigans we see today, men such as Rex Applegate of the U.S. Army and O.S.S., and William Fairbairn of the British Commandos



Two-hand point firing.



Point firing is fast, sure and practical. Trouble doesn't usually come at a range or shooting meet. It can come at any time or place.

taught point or "instinctive" firing of the handgun. Their system established itself as the one appropriate for combat shooting against live targets that shoot back. However, the years following WW2 saw the emergence of the so-called "new technique" of the pistol, and the dominance of what has become known as the new sport shooting school or system—the I.P.S.C. The I.P.S.C. has generally substituted two-handed aimed firing technique for point shooting and, sadly, had led the shooting public to believe that its founders more or less developed this style. One of the shootists responsible for "new technique" doctrine, Jack Weaver, popularized a particular two-handed form of shooting that today bears his name. In 1930, however, the firearms authority J.H. Fitzgerald demonstrated a shooting position that is obviously the same as today's so-called "Weaver stance." A photograph on page 363 of his book, *SHOOTING* will confirm this. So it seems that neither two-handed shooting, nor the "Weaver stance" is anything new!

Two-handed shooting did not begin in

the 1950s with the men of the Southwest Pistol League. It began long before that, and was taught extensively by Rex Applegate to the American forces. Fairbairn taught the same thing; and *both men taught two-handed firing as part of the point-shooting method!*

There is no denying that the use of the sights in aimed fire *is* the superior way to shoot in sporting combat *matches*. When the targets do not fire back, and when they are positioned at distances exceeding 20 feet, the best way to engage them is by aimed fire, using two hands if possible. When one fires at targets in broad daylight (as one always does in sport shooting matches) then deliberate aimed fire—i.e., the use of the sights—makes sense. When there is an *absence of combat stress* then one can efficiently make use of the weapon's sights every time one fires at the target.

NOTE: I have emphasized those words, "absence of combat stress" in the last paragraph because it is vital that the reality of the existence of such stress be duly noted

Continued on page 66



A close-range point firing position. Quick, accurate, natural and suitable in situations when the sights can't be used.

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Book Reviews

(Continued from page 9)

sion with the main sections titled, The Problem, Technical Solutions, Foot-Dragging, The Moral Response.



The Soviet Airborne Forces, Defense Intelligence Agency; Paladin Press, Dept. ASG, P.O. Box 1307, Boulder, CO 80306; (303) 443-7250; 35 pages, paperback; \$8 plus \$3 postage and handling.

This is a Department of Defense Intelligence Document prepared by the Soviet/Warsaw Pact Division, Directorate for Research, Defense Intelligence Agency. It was prepared by Maj. James H. Brusstar, Frontal Forces Branch, Threat Analysis Support Section. It provides detailed information on the Soviet Airborne Forces' organization, training, tactics, and equipment. It has been prepared in response to a U.S. Army Training and Doctrine Command requirement. "The Soviets have long recognized the potential of an airborne force," according to a summary in the document. "However, since the 1960s, the Soviets have given increased attention to the development of their airborne capabilities. Units have been extensively re-equipped with weapons of enhanced mobility and firepower. Correspondingly, ground-assault tactics have been changed. Once landed, airborne units now are capable of functioning as motorized rifle units. Concurrently with the changes in the units themselves, there has been a vast improvement in the Soviets' ability to air transport airborne units . . . The present Soviet airborne force is formidable. It can be delivered to great distances, it is highly mobile, and it is capable of assaulting a well-fortified position or a powerful enemy force." Contents include sections on doctrine, missions, organization and equipment, air delivery capabilities, training, and conduct of airborne operations, with appendixes on company operations and major equipment used by Soviet airborne units. ●

Don't Be the Last to Know

When a nuclear incident occurs, don't you want to know immediately if you and your family are in danger from radiation contamination? Our public officials are there to protect the "PUBLIC". Who is going to protect you?

Advance warning of radioactive contamination is vital to give you the edge in leading your family to safety, be it to a shelter or evacuation. **SURVIVOR** radiation warning receiver will alert you when a significant increase in radiation occurs due to a nuclear war or a major "peace time" disaster. You need to be aware of the many potential life threatening problems so you may react immediately to protect your safety and the safety of your family. **SURVIVOR** radiation monitoring receiver, plugged into any 110 volt outlet will notify you immediately of any significant increase in the radiation level. **SURVIVOR** detects Alpha, Beta, Gamma, X-ray, and high concentrated levels of Radon gas. Like it or not, we are living in the nuclear age. The question of right or wrong will be the topic for years to come. However, you DO need to know of a significant increase of radiation around your home, office, or business NOW. Our public officials are out to protect us and warn us of problems, but prompt notification sometimes just isn't possible. As we move further into the nuclear age, radioactive accidents and contamination are likely to occur. If it affects you, you'll want to know at the earliest possible moment so you can lead your family to safety. Often, the local citizen is the last to know. If this concerns you, then you need **SURVIVOR**. After all, it may be your only alternative to not knowing.

Possible Sources of Radioactive Contamination

The most commonly publicized sources are commercial nuclear reactors. The threat of a melt down or partial melt-down such as Chernobyl or Three Mile Island is an ever-growing concern. There are over 100 commercial reactors in the United States with over 25 additional on order. Plants that process radioactive ore could be common sources of radiation. Escaping ore dust or fumes leaking from filter systems and smoke stacks are reported constantly. Major highways and rail lines used to transport radioactive waste to a dump or storage site are possible high risk areas. The number of truck accidents and train derailments are on an ever-increasing occurrence. The list goes on and on, increasing weekly.

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SURVIVOR radiation warning receiver will give you immediate notice of any significant increase in the radiation level of your home or office. Prompt warning of a potential radiation problem will allow YOU to make the decision to evacuate the area before a higher level of radiation occurs. Early knowledge of a radiological emergency can allow you the time to beat the traffic and avoid the panic. The sooner you are aware of the problem, the sooner you can move your family to safety. In the finance

world, the saying is, "time is money". In this world, "time is life". Don't forget to take **SURVIVOR** with you for added protection.

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SURVIVOR is designed to be plugged into any 110 volt outlet. A green LED will tell you it is looking for an increase in the radiation level. Should you lose 110 volt power, a rechargeable battery will take over for continued protection. At that time the green LED will go out and red flickering LED will tell you of the 110 volt power failure. To test the alarm, simply push the test button on the top.

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MAIL CALL

Nevada Defense Forces

The State of Nevada has joined the growing number of states who are expanding their state defense forces. In the past, this type of force was organized in times of emergency when it became apparent the National Guard would be called out of the state. Some state leaders realize the terms of modern emergencies may not allow time to organize a replacement for the National Guard and, prudently, are acting now while there is time. The state defense force in Nevada is known as the Nevada National Guard Reserve (NNGR). It operates under the jurisdiction of the Adjutant General of Nevada. The NNGR is open to men and women between the ages of 17 and 65, with or without prior military service. Further information can be obtained by addressing: S/5, Area Command 1, Nevada National Guard Reserve, P.O. Box 14545, Las Vegas, NV 89114.

Larry L. Larimer
Las Vegas, Nevada

Thanks for the information, Larry.

Arming Terrorist Victims

Jim Benson's "To The Point" in the December 1986 issue of *ASG*, concerning the possibility of arming certain potential victims of terrorist attack when they travel, showed that Mr. Benson has his heart in the right place but there are problems with the proposal he outlined. I, too, am frustrated and feel extremely helpless when I see innocents slaughtered regardless of the war or cause. However, we can get many more of these innocents killed if we do not present a meaningful set of guidelines for the traveler to use when faced with a life or death situation. A little information or training can be very dangerous. I have seen this many times. When an untrained person is given incomplete training or information, they have a tendency to think that they have been given all of the tools necessary to handle any situation, this is simply not true. If ordinary citizens were allowed to carry firearms on an aircraft, the requisite training of these people would be as extensive as that received by the top antihijacking teams which routinely fly on commercial flights of many Western

nations. Shoot/no shoot, marksmanship, unarmed restraint, vulnerability of aircraft, tactical response, and flight training are just a few of the areas that must be trained for when considering arming flight passengers. How many private citizens would go to the expense of equipping themselves to properly handle a hijack situation in the air? How many of these same citizens possess the physical and mental faculties to handle the training and eventual use of these skills in a real world situation? There are some things that the ordinary citizen can do to maximize his/her chances of surviving a terrorist incident. These survival steps depend on the person's proper use of the most powerful and precious tool at our disposal. That tool is the human brain. More powerful than the most advanced computer, the human brain can compute and analyze data and cause action or inaction. This action or inaction is the "controlled response" necessary to survive a crisis situation of any kind.

Thomas W. Parker
Lafayette, Louisiana

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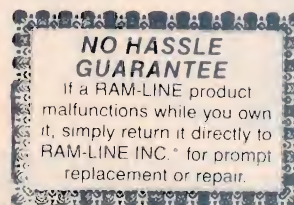
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Jim Benson responds: *What you say makes sense a I don't disagree. My To The Point column in the December issue was meant as a suggestion, to stimulate thought and discussion on the subject. I stand by what I said: that it may be time for democratic governments to consider arming (with proper training, of course) more of their citizens who are increasingly at risk of terrorist violence. Obviously, gunfights and explosions and the like aboard airborne aircraft are always highly dangerous and could lead to greater loss of life than the actual terrorist incidents they result from, yet these things do happen today. Certainly citizens such as air travelers who might be allowed to arm themselves would require extensive training and preparation, but I see no reason why selected citizens who qualified and were willing to take the training and assume the risks could not be allowed to do so.*

Sun Selector Correction

In the article "Sun Selector" on page 15 of your March 1987 issue, we would like to note a correction. The first sentence

should read: "The world's first commercially available *expandable*, residential photovoltaic power system is being manufactured by Bobier Electronics Inc., A west Virginia corporation."

R. Covey, Marketing Coordinator,
Bobier Electronics.

Sorry about the typo, which read "expendable."

Starting Over

I have been a practicing survivalist since about 1975. I am now starting all over again, and therein lies a story and the source of some advice I would like to pass on to other survivalists. When I began practicing survivalism it was dictated by the character of Alaska. Not only is Alaska limited in most areas as to agriculture, but we import most of our necessities and other goods from the lower 48 states. So, as such, we are subject to disruptions due to nature, strikes and other occurrences. In 1975 we started keeping at least a month's supply of food on hand and I had a couple

of rifles to utilize as needed. Later, in 1979, we moved to a somewhat more rural area of Alaska. We purchased five acres of land with a creek. We checked with the locals about floods, game, etc. We moved cautiously in selecting the land. We looked at the local community and found it populated with people who enjoyed privacy but were there when you needed them. We had, in short, found our ideal for our retirement home. We built a home that was energy efficient and as comfortable as we could make it with the money available. We had wood or propane heat, solar electric with a generator backup. We had our own well and septic system. I had at least 18 guns, at least half of which were duplicated so as to insure functioning guns when needed. I put together a large supply of ammo. I like to think that we had covered the field of survivalism with our stores. We also had covered our medical and entertainment needs as well as adequate expedition supplies. On Oct. 11, 1986 our dream and preparations were wiped out! We had no warning that the rain and rising creek water were anything

(Continued on page 71)

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SURVIVALIST DIRECTORY

THIS IS A CONFIDENTIAL listing of survivalists who wish to become known to others of like mind. *American Survival Guide* will accept properly coded mail and forward it to the coded addresses without charge. *American Survival Guide* accepts no responsibility for the contents or results of these confidential communications. Mass mailings are not permitted.

ASG 0501

Oklahoma City, Oklahoma-Central Oklahoma area, renegade base has moved. Now looking for specialists in survival-related fields. Technicians, mechanics, medics, combat and security specialists. Exchange of ideas, info—option to form survival network. Paramilitarists welcome, no subversives. The long night is coming—will you be standing the day after?

ASG 0502

Chicago, Illinois, black Catholic lapsed martial artist invites interested women to learn Y.I. Women's Christian Martial Arts at Fall '87 survival retreat in Mexico. For more information on the fall retreat/Y.I. self-defense seminars, please contact: "Sister T." Serious inquiries only.

ASG 0503

St. Charles, Colorado, Missouri father and son, survival oriented, looking to join a group. Possibly even start one. No racists or commies.

ASG 0504

Bradford, Pennsylvania, husband and wife wish to contact others of like mind in northwestern PA and western NY to exchange ideas and possibly form or join a survivalist group.

ASG 0505

Fellows, California, seek new members for nationwide organization. Also wish to correspond with all survivalists for info and idea exchange.

ASG 0506

Franksville, Wisconsin, survival organization forming in S.E. Wisconsin. Looking for serious, dedicated members. Family oriented but single parents and single people welcome. All skills and backgrounds needed. All correspondence kept strictly confidential.

ASG 0507

Belfast, Maine, seeking contact with and want to start survival group. Paramilitary, medics, supply personnel, engineers most welcomed. Not religion oriented, want no drugs. All races welcome.

ASG 0508

Northwest Ohio-Vanwert, Paulding, Allen, Mercer counties, 32 yr-old weapons skilled survivalist wishes to join or start survival group. Purpose is to exchange survival skills and knowledge. Wish to meet other survivalists with high moral character, any age, sex, color but no gays, commies, racists or Rambo types.

ASG 0509

Simi Valley, California, Hillsboro, Or-West Coast Avengers looking for people in California, Oregon, and Washington who are concerned with takeover by the commies, to exchange ideas on warfare, etc. Send us your name and address, along with a letter explaining interests and choose a code name of your own. No commies, Nazis, or druggies. We'll respond!! Options to start a West Coast Avengers branch in your area welcomed.

ASG 0510

York, Pennsylvania, young survivalist seeks contact with survivalists in 80-mile range. Born in Alaska, has wide variety of skills, graduate of two survival classes, trained in Alaska, have equipment for solo survival, seeks others who desire to prepare for tomorrow. No Nazis or tv survivalists.

ASG 0511

Springfield, Virginia, concerned about the future and a declining faith in our government. Seeking affiliation with a few others to join in mutual assistance during times of crisis. Low profile, family oriented and moderate.

ASG 0512

Goleta, California, responsible patriotic college student looking to join or form group in the Santa Barbara County area. Please describe your idea of survivalism. No extremists please.

ASG 0513

Winter Haven, Florida, 14 year old wishes to join or form survivalist team with serious members. Nazis, communists need not reply.

ASG 0514

Central South Carolina, group wishes to expand. Strong, intelligent leader who's wary of both the economy and the Russians. We are prepared to have and to hold. Potential recruits, married or single (no children under 6, please) may send brief resumes and other pertinent information. Recruits must be prepared to live, not die. Strong group commitment expected. Rambos need not apply, but all others welcome.

ASG 0515

Washington D.C., experienced survival and emergency preparedness equipment specialist is available to provide a free seminar to groups in Maryland, Delaware, Southern Pennsylvania, and Northern Virginia. Respond for further information and/or sample instructional outline.

ASG 0516

Phoenix, Arizona, looking for military surplus dried food, camo uniform, ammo and surplus equipment.

ASG 0517

Alton, Illinois and vicinity, seek contact with others interested in primitive survival group. Male, female, married or single. No radicals or Rambo types needed.

ASG 0518

Baltimore, Maryland, beginner would like to contact another beginner (male or female) interested in forming a team effort to exchange ideas on survival training and martial arts in the Baltimore/Washington, D.C., area.

ASG 0519

Coronation, Alberta, Canada, newsletter/club seeking to link all survivalists and groups together by correspondence. International! Free 30-word ads for those seeking info, ideas, groups, anything! Send ads now. Further info on request. No racists, Nazis, etc.

ASG 0520

Greeley, Colorado, survivalist seeks individuals to learn to live with little or no money, similar to the way pioneers did 100 years ago.

ASG 0521

Gales Ferry, Connecticut, seeks contact with survivalists in this area.

ASG 0522

Dallas, Texas area, 40-year-old Paramedic, survivalist, would like to form group 50 mi. from Metroplex. 500 acres available, water, timber, cabins, self contained area. No Rambos, braggarts. Only serious apply. Small investment may be required for help in community set-up.

ASG 0523

Australian, Ex-army medic would like to correspond with any person or group, swap knowledge and ideas, on alternate tech. Field crafts and values. All letters answered.

ASG 0524

Revere, Massachusetts, serious individual seeks to become involved with survivalist group in area or surrounding, or people interested in starting group. Also like to hear from survivalists worldwide. Dedicated.

ASG 0525

Northwest Minnesota, survivalist/writer, minimalist, liberal Christian, experienced in basic mechanics, carpentry, hunting, fishing, gardening-food prep. College educated. Looking for a live-in position managing a low-profile, non-paramilitary retreat. Consider relocating. Own truck, tools, but college poor. Also exchange letters with like minded individuals in area.

(Continued on page 49)

SURVIVAL SELF TEST

By Glenn A. Anderson

Copyright, 1987, Glenn A. Anderson

How well do you know your way around the old homestead's kitchen? Here is your big chance to bone up on what's cookin' and how it gets cooked. This month's Self Test was developed from *Back to Basics*, published by the Reader's Digest Association, Inc., Pleasantville, New York/Montreal. The Self Test contains

questions concerning survival related information on: dairy products, maple sugaring, yeast and bread making, cook fires and equipment. Test yourself, then obtain a copy of *Back to Basics*, and study those areas where the Self Test has revealed your weaknesses.

1. When well preserved, home-made cheese can be expected to last how long?
 - A. A month.
 - B. Several months.
 - C. A year or two.
 - D. Almost indefinitely.
2. You will be able to produce the widest range of dairy products using which of the following types of milk?
 - A. Pasteurized.
 - B. Homogenized.
 - C. Raw.
 - D. Reconstituted dry.
3. To extract cream from cow's milk, what should you do to the milk before it is skimmed?
 - A. Heat it to 140 degrees, then skim when set.
 - B. Chill it and let it set from 12-24 hours.
 - C. Let it set at room temperature for 48 hours.
 - D. Let it warm gradually for 12 hours, then skim.
4. Cream will be ready to churn into butter when it has:
 - A. Been brought to a temperature of 60 degrees F.
 - B. Turned lemon-yellow in color.
 - C. Developed a wrinkled texture.
 - D. Taken on a slightly sweet taste.
5. Cultured milk products, such as buttermilk, yogurt, sour cream and kefir can be produced from:
 - A. Raw milk or powdered milk.
 - B. Homogenized milk or pasteurized milk.
 - C. Any of the above.
 - D. Raw milk only.
6. Excluding the sugar maple, the best variety of maple tree from which to harvest maple sap for syrup making is the:
 - A. Norway maple.
 - B. Black maple.
 - C. Red maple.
 - D. Silver maple.
7. The best time to tap a sugar maple tree is in the:
 - A. Late winter or early spring.
 - B. Early winter or late spring.
 - C. Late fall or early winter.
 - D. Late spring or early summer.
8. A maple tree which is under two feet in diameter may be safely tapped in how many spots?
 - A. None.
 - B. One or two.
 - C. Three or four.
 - D. Up to a half-dozen.
9. A hot wood fire is best for boiling down maple sap. How much dry hardwood will be needed to process 200 gallons?
 - A. One-eighth cord.
 - B. One-fourth cord.
 - C. Three-fourths cord.
 - D. One cord.
10. Maple sugar is produced by:
 - A. Boiling and cooling maple sugar.
 - B. Pouring hot syrup over ice or snow.
 - C. Evaporating the steam from maple sap.
 - D. Sun drying thin layers of syrup.
11. You can make homesteader's yeast if you have which of the following ingredients?
 - A. Salt, flour and water.
 - B. Maple sugar, beets and salt.
 - C. Corn, barley, sugar and water.
 - D. Potatoes, sugar, salt and water.
12. Which of the following breads does not require the use of yeast?
 - A. Anadama.
 - B. Sourdough.
 - C. Johnny cakes.
 - D. Basic white.
13. The key to making a good cooking fire in a fireplace is:
 - A. Establishing a good bed of hot coals.
 - B. Using only hardwood to cook with.
 - C. Keeping the fire roaring hot.
 - D. Having the right fireplace.
14. Of the following types of wood, which is the best cooking fuel for an open fire?
 - A. Oak.
 - B. Ash.
 - C. Elm.
 - D. Fruitwood.
15. How should a piece of cast iron cookwear be seasoned?
 - A. Grease the outside and place over an open fire.
 - B. Grease the inside and bake in the oven one hour.
 - C. Wash and dry it, coat it with grease, put it in a 360 degree oven for two hours.
 - D. Wash it, while still wet place in a 350 degree oven for one hour.
16. When roasting meat over an open fire, the first thing that should be done is to see that the meat is properly:
 - A. Basted.
 - B. Seized.
 - C. Tenderized.
 - D. Tied.
17. On an old fashioned cast iron wood cookstove, temperature is primarily controlled by:
 - A. The type of fuel being utilized.
 - B. How much fuel is being consumed.
 - C. The size of the firebox in the stove.
 - D. Dampers and draft regulators.
18. Nature's original non-stick griddle, used for cooking on a wood burning stove, was made of:
 - A. Iron.
 - B. Steel.
 - C. Soap stone.
 - D. Crushed lava.
19. What should you do with the ashes that accumulate in the ash pit of a wood burning stove?
 - A. Use them to sprinkle on stove top spills for scouring.
 - B. Use them in the garden, for soapmaking, etc.
 - C. Add water to them to produce a perfect stove black.
 - D. Nothing, the organic proprieties are inert.
20. Small cracks that appear in a wood stove can be easily repaired with:
 - A. Oven putty.
 - B. Stove wax.
 - C. Firebox epoxy.
 - D. Iron calk.

SCORING:

For each Survival Self Test question answered correctly, score

yourself 5 points. Add them up. If your total is:

Below 70 Sap sucker.

70-80 Cheese eater.

80-90 Bread winner.

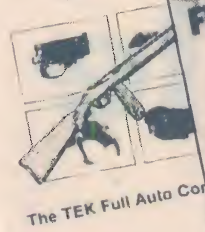
90-100 Chef.

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ANSWERS:

SELECT FIRE 10/22

By Wayne Thorburn



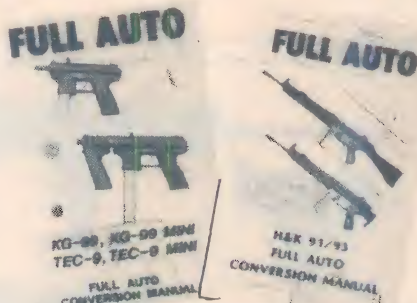
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HK 91/93 \$8.00

Full Auto



FULL AUTO, VOLUME TWO Semiauto UZI Modification Manual

This revised edition covers two methods of conversion, one for a drop-in conversion to full-auto only and one for permanent conversion to selective fire. Every step is shown in large, clear photos and concise, easy to understand text. Remember, due to federal law, Israeli-made full-auto UZIs will never be available to collectors, but the semiauto version may be converted. 5 1/2 x 8 1/2, softcover, 34 pages, profusely illustrated.

036 \$6.00

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The Thompson semiauto Model 27 A-1 is extremely popular among civilians and is one of the easiest semiautos to convert to FULL-AUTO. There are no extra parts to buy and only three original parts need to be altered. Complete machinist's drawings illustrate the alterations, which can be done in a basic machine shop. Easily understood text. 5 1/2 x 8 1/2, softcover, 24 pages, illustrated, including a history of the Thompson SMG.

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Since the M2 is a direct descendant of the M1, the M1 can easily be converted to full-auto by a mere substitution of parts and some minor alterations in the stock and trigger housing. This book contains all the information needed for the conversion: basic differences between the M1 and M2, the parts needed are listed and shown, even full machinist's drawings for converting M1 parts should certain M2 parts prove difficult to find. 5 1/2 x 8 1/2, softcover, 28 pages, fully illustrated.

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FULL AUTO, VOLUME THREE Semiauto MAC 10 Modification Manual

This manual presents six different methods of converting the semiauto MAC 10 to FULL-AUTO. These methods range from very simple, full-auto only conversions to more involved, selective fire versions. All modifications are easy and require no difficult machining operations. Conversion techniques range from the mere removal of metal to the addition of simple, removable parts. 5 1/2 x 8 1/2, softcover, 52 pages, profusely illustrated.

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The incomparable UZI submachine gun has proved itself in the hands of law enforcement agencies and military institutions throughout the world. Action Arms Ltd. is the sole importer and distributor for UZI weapons and accessories in the U.S. and Canada. Shown here is the submachine gun firing in full auto and fitted with a DTA MIL/BRAKE muzzle brake from Fabian Bros. Sporting Goods in San Diego.

By Bob Clark

FEW FIREARMS in recent memory have received the amount of exposure and world wide acclaim as that realized by UZI. Virtually every form of mass media has, at one time or another, featured the name UZI in some form. It is this widespread exposure that has made the UZI name a household term to even the most unconcerned citizen. UZI has become synonymous with compact firepower in the same fashion that "Coke" has come to mean any cola-flavored soft drink. The

UZI is without a doubt the most noteworthy firearm of the past three decades.

Quite literally born out of necessity, the UZI submachine gun was designed by Uziel Gal, an officer in the Israeli army. Simply put, when Israel became a nation in 1948, it was promptly attacked by neighboring Arab states. Weapons were in critical demand for the new nation to survive and delivery time of firearms purchased from other nations proved inadequate.

(Continued on page 27)

SPECIFICATIONS: UZI Carbine

Caliber	9mm Parabellum or .45 ACP
Operation	Blowback, closed breech, semi-auto only
Magazine	Staggered box 20, 25 or 32 capacity
Safety	FIS selector and grip
Stock	Folding metal, wood available
Sights	Front post, Rear peep
Length	24.4 inches with stock folded
Barrel length	16.1 inches
Weight	8.4 pounds
Retail price	\$698.00
US Importer	Action Arms Ltd., PO Box 957, Philadelphia, PA 19122

SPECIFICATIONS: UZI Pistol

Caliber	9mm Parabellum or .45 ACP
Operation	Blowback, closed breech, semi-auto
Safety	FIS selector and grip
Sights	Rear peep, open rear adjustable
Overall length	9.45 inches
Barrel length	4.5 inches
Weight	1.6 pounds
Magazine	20, 25 or 32 capacity
Retail price	\$379.00

SPECIFICATIONS: UZI Mini Carbine

Caliber	9mm Parabellum .45 ACP late 198
Operation	Blowback, closed breech, semi-auto
Safety	FIS selector and grip
Sights	Rear peep, open rear adjustable
Overall length	15.75 inches
Barrel length	19.75 inches
Weight	7.2 pounds
Magazine	20, 25 or 32 capacity
Retail price	\$698.00





Aside from considerable recoil experienced with the .45 UZI pistol, the three firearms handled exceptionally well.



**AMERICAN
SURVIVAL**
GUIDE



The .45 UZI with 10-round magazine is on the heavy side for a pistol, but the short barrel results in plenty of recoil and muzzle rise.



Standard 9mm UZI with stock extended is still a very compact package of firepower.



The standard UZI's butt stock is rugged and collapses or extends in a split second. An optional wood stock is also available.



Although it may look ungainly with its long barrel, the semiauto Mini UZI was the most accurate of the three guns at longer ranges.

The Incomparable UZI

(Continued from page 24)



A number of aftermarket accessories have been developed for the UZI. This unique Barracuda stock from Armscorp of America, is ergonomically designed and made of Space Age polymer plastic. It provides a positive hold on the carbine while firing from any position. Also shown are Armscorp's 32- and 40-round magazines. (Armscorp is located at 9162 Brookville Rd., Silver Spring, MD 20910; 301-587-1227.)

quate to ward off hostilities. The need to develop and produce weapons at home was obvious and the task was given to Gal.

The task put to Gal was awesome at best. There was precious little time for development and testing. Other parameters made the task even more difficult. For one, the gun would have to be manufactured on substandard machinery. Secondly it would have to be inexpensive to manufacture yet durable enough that troops wouldn't need to replace prematurely worn out parts. Most importantly the weapon would have to function flawlessly and reliably under some of the most severe conditions imaginable. Gal was being asked to develop in a short period what other designers had been attempting for years. Gal proved more than up to the task as within 18 months he had designed and begun manufacturing what is to this day recognized as the standard by which other weapons in the UZI's class are judged.

Over the past three decades the UZI has changed only slightly. However, due to world wide demand, Israel Military Industries began producing the UZI in semiautomatic form. The semiautomatic carbine was followed by an UZI pistol and the

(Continued on page 62)

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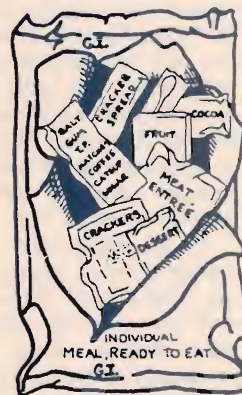
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Ships At Sea: Seeking Calmer Waters

An estimated one-third of all shipping takes advantage of weather routing to steer clear of danger . . .



A tanker encounters heavy sea and swell during a severe storm (Courtesy of Oceanroutes Inc.).

By Robin Burton

FOR CENTURIES sailors have tried to avoid heavy weather, relying on hunch, casual observation, recitation of rhymes, and tapping the barometer every morning. Sometimes these devices work and very often they don't, and ships, if not actually lost, are badly damaged. The seamen themselves are not fond of getting it wrong, shipowners like it even less, and underwriters find it hard to sleep whenever weather forecasts indicate that stormy weather is on the way.

All of which adds significance to the rapidly growing practice of weather routing ships around the oceans of the world, and not only big ships, because today many fishing vessels and yachts take advantage of the services now available.

There are several organizations in the United States, Britain, Holland, Japan and Russia providing the services, but the largest of all, Oceanroutes Inc., with headquarters in Sunnyvale, California, and a European arm in Aberdeen, Scotland, calculates that something like a third of all world shipping currently takes advantage of the services provided by these bodies and the percentage is growing all the time.

What exactly is a weather routing service, and what does it do for a skipper about to cast off on a lengthy voyage?

Well, to take Oceanroutes Inc., as an example, the company has access to World Meteorological Organization data provided by the worldwide acquisition network including the output of ships and weather stations, and is also fed by the U.S. Navy Numerical Weather Center in California.

Further useful contributions are made by satellite photographs which feed in "real time" data showing, for example, the early location of tropical storms or the speed of advance of weather systems. In addition to these sources of information supply, the ships taking advantage of the service also feed back information showing whether they are in fact getting what was expected, so that in total there is a lot of information available.

Information supplied to a ship is detailed for the next three days, and the voyage route is precisely specified by an analyst using a computer to select the best of all possibilities, taking into account the type of ship, her cargo, speed, and duration of voyage. The optimum route is of course the one that can be covered in the shortest possible time consistent with economy and safety. In short, all input is analyzed to provide likely possibilities.

Longer range forecasts are based on the

analogue system, in which the computer searches back through many years of weather records and finds a pattern similar to that of the moment. There is a reasonable possibility that what happened in the past may happen again in the future, and when further climatological data is fed into the system it is then possible to make much longer projections.

In Britain the Meteorological Office has been providing a weather routing service since 1968 for ships of all nations. The early service covered the North Atlantic, but was later extended to take in the North Pacific, but this still remains rather a limited service by comparison with that of Oceanroutes which is virtually worldwide. The Central Forecasting Office at Bracknell absorbs a constant flow of data from various sources in the Northern Hemisphere, which is digested by a computer to produce individual forecasts allowing each ship to utilize favorable surface currents or stay out of areas of fog or ice.

Thus, when a shipmaster comes along and asks for a routing, as much information as possible is produced by a visit to the ship, and the advised route is later sent on to her by telex or radio. Additional advisory messages are also passed on by radio via Portishead, Vancouver, San Francisco, or Choshi, and include reviews of the synoptic situation and 48-hour weather forecasts.

Oceanroutes, Inc., although operating on a much larger scale, works in much the same manner, and one useful aspect of their service is the daily status report showing the ship owner where all his ships are on a given day, what sort of weather they are encountering, and their expected time of arrival based on current performance. The Tokyo office of the company has in the past developed an interest in the Japanese fishing industry and supplied weather forecasts for fishing boats sailing to the Bering Sea, and the Japanese organization has paid a lot of attention to typhoon avoidance on routes to and from Japan.

It is not only straightforward storm avoidance that attracts shipowners. Fuel conservation is an important factor, and a saving of only hours of voyage time may result in fuel savings totalling several times the cost of the routing advice. On the other hand, a ship may want to get to her destination in the shortest possible time, regardless of fuel consumption, while another, carrying a sensitive cargo, may want good weather at all costs.

RIGHT—A route analyst examines the synoptic situation in conjunction with advanced computer capabilities to determine a vessel's actual and dead reckoned positions (Oceanroutes Inc.).

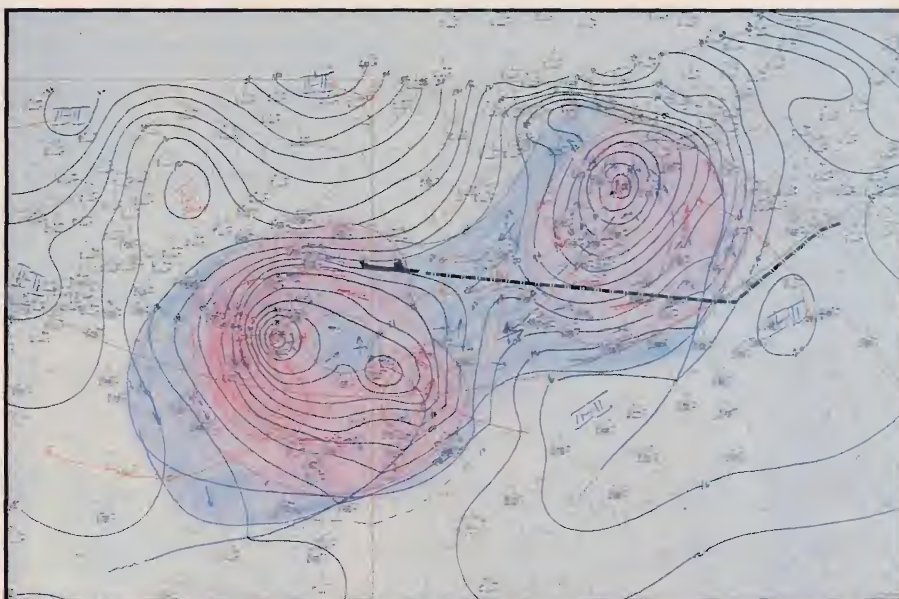
One ship may want to avoid the necessity of lashing down a cargo of cars, for example, and another may be looking for reductions in insurance costs arising from known use of weather routing services.

Weather routing has been defined as the art of taking advantage of all available oceanographic and meteorological information in order to get the fastest and safest passages for ships, together with the lowest possible fuel consumption. Which just about says it all.

Time has not completely run out for the sailor whose rheumatism tells him dirty weather lies ahead, but it seems fair to assume that sailors of the future will spend less time tapping old barometers and more time switching on the bridge "number-crunchers."

In the meantime, there have been several developments of late which will considerably reduce the risks of unexpected accidents at sea, such as sinking due to foul weather, and prominent among these is the steady development of the AMVER System (Automated Mutual-Assistance Vessel Rescue) which originated in the United States and has now been expanded to cover vast tracts of ocean.

Getting Help—Most developed countries take their responsibilities for rescue of seamen in distress very seriously, and especially the countries bordering the North Atlantic, the North Sea, the Mediterranean, and parts of the Pacific. There are still, however, large areas of the world where coverage is mighty thin on the ground, or rather the sea. It was only about four years ago, for example, that Australia formally assumed responsibility for a huge area of ocean reaching from the Tasman Sea to a point 2,000 miles west of



ABOVE—Accessing a surface chart to learn pressure gradients and movement of weather systems (Oceanroutes Inc.).

LEFT—Optimum track ship routing, demonstrating the benefits of receiving long-range forecasts and route recommendations for an economic and safe passage (Oceanroutes Inc.).



Perth and from the Timor Sea and Torres Strait to Antarctica. There are still very large areas of the Southern Ocean without any kind of rescue coverage. Even when countries bordering less remote tracts of water do their best it often happens that this best is confined to relatively near waters and in the middle of an ocean it would be fairly easy to sink without help arriving in time.

The most obvious solution to the problem of getting help swiftly to a ship or individual in distress is to get a passing vessel to alter course to render assistance, and

(Continued on page 43)



AMERICAN
SURVIVAL
GUIDE

Horton: LS Express

A rugged, powerful and compact crossbow with a traditional look . . .



The rear sight is a peep sight. A scope can be mounted if desired, using only rings. Front sight is adjustable for distance.

Staff Evaluation

FOR the crossbow enthusiast who wants the best in power and accuracy but who still prefers the look of tradition, consider Horton's new LS Express.

Like Horton's other crossbows, the LS Express has a 150-pound draw weight. It is made with the most modern of materials yet has a traditional look with its beautiful walnut stock.

The LS Express has Horton's Dial-A-Range feature which allows the shooter to compensate for the drop in the bolt by adjusting the rear peep sight for elevation with a knob located above and to the rear of the trigger on the right side of the stock. The Dial-A-Range knob is click adjustable. A scope can be mounted on the sight rail using only rings. The front sight is a pin arrangement with space for multiple pins.

The LS Express weighs in at about 9½ pounds. The weight significantly reduces recoil on letoff. The bow is about 28 inches wide and about 33 inches long overall. Horton uses a monofilament serving. The barrel or track is aluminum extrusion.

Another desirable feature is the glass-filled polypropylene bush handguard which helps prevent fingers from being struck by the string on release of the bolt.

In brief field testing shooters found the LS Express handles very well and was quite



Horton's Dial-A-Range feature allows click adjustment for elevation.

accurate at 20 yards. The maximum effective range for this bow is said to be about 45 yards.

The suggested retail price of the LS Express is about \$300. It is sold in better gun, archery and sporting goods stores around the country. For more information contact Horton Crossbow Manufacturing, Inc., Dept. ASG, 1317 E. Waterloo Road, P.O. Box 265, Mogadore, OH 44260; (216) 628-9213. ●



The glass-filled polypropylene bush protects fingers from injury when the string is released.

HK 91/93/94



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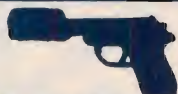
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Staff Report

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And each Shinobu Tanto's blade is made from the same laminate processes as Cold Steel's line of other Tantos offering strength, sharpness and edge-holding ability. And each Shinobu has the non-slip shock-absorbing Pachmayr-type grip of deeply checkered Thermolin which acts to cushion the hand. The large and medium Shinobus come with a rugged nylon belt sheath with velcro closure and stretch loops to fit most belt sizes.

The large model is 8 3/16 inches overall with 3 1/2-inch blade and weighs 5.5 ounces. The medium Shinobu weighs 2.6 ounces, is 6 1/4 inches overall with a 2 3/4-inch blade. The small Shinobu weighs only .9 ounce, with an overall length of 4 1/4 inches and 1 3/4-inch blade. It comes complete with removable lanyard key ring attachment. Suggested retail prices are \$79.95 for the large, \$59.95 for



medium and \$24.95 for the small.

For more information see your knife dealer or contact Cold Steel, Dept. ASG, 2128 Knoll Dr., Unit D, Ventura, CA 93003; (800) 255-4716 (outside California) or (805) 656-5191 in California. The Cutlery Shoppe carries the complete Tanto line at very reasonable prices. See the ad in this issue. ●

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Staff Report

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The A-F knife along with sheath and best selling self-defense classic by Col. Applegate, *Kill Or Get Killed*, now in its 17th printing.

By Robert S. McKay

IN 1943 during the height of World War 2, two of the world's most legendary close combat experts, Maj. Rex Applegate of the O.S.S. and Capt. W.E. Fairbairn of the British Commandos, designed what they considered to be the ultimate fighting knife: the Applegate-Fairbairn.

While the famous Fairbairn-Sykes Commando knife had been issued to a variety of Allied units since its introduction in 1940, Applegate and Fairbairn realized by mid-1943 that the knife had several design deficiencies and felt it necessary to develop an improved, more combat-worthy knife to replace it.

To begin with, the Fairbairn-Sykes was a "stabber," not a "slasher," and the somewhat narrow, thick blade did not take the edge needed for a versatile slash and thrust fighting knife.

Reports from the field also indicated that the Fairbairn-Sykes was blade-weak, often breaking off at the tip or crossguard.

And lastly, the round, foil-type handle of brass became slippery when wet with sweat, and because of its symmetrical,

cylindrical shape, was impossible to draw from the sheath with any sure knowledge that the edge of the blade was oriented properly.

The new, improved knife resulting from this Applegate-Fairbairn collaboration never went into production due to the abrupt end of the war. Col. Applegate retired from the U.S. Army and spent the next 17 years in Latin America, while Fairbairn undertook varied training assignments for the British government. By the time Applegate returned to the U.S. in the early 1960s, Fairbairn had died and Applegate was too busy working as a riot control consultant to consider putting the ultimate fighting knife design into production.

However, as new interest in fighting knives surfaced in the late 1970s, Col. Applegate decided to put the Applegate-Fairbairn into production. After several years of material evaluation and prototypes had been completed to Applegate's satisfaction, he put the knife into actual production and offered it in limited quantities to collectors and the public in 1980, almost

37 years after Applegate and Fairbairn had designed it. While some may disagree, this author, after careful evaluation, has concluded along with most noted experts that, for actual *combat* application, the Applegate-Fairbairn is, indeed, the world's ultimate fighting knife. Consider the following design features:

The blade is handcrafted from the best American-made 154cm stainless steel available, featuring a blade length (6 inches) that is long enough to puncture vital internal organs with a variety of thrusts. The blade is also wide and strong for slashing attacks, and the thick blade tip is virtually impossible to snap off, as is the thickened tang at the crossguard.

The grip is made of indestructible Lexan, designed for an across-the-palm fencer's grip to facilitate both thrusting and slashing. Horizontal grooves running the length of the grip allow flesh to be compressed into them, eliminating the chance that it will "roll" in the hand. Thumb cross notches near the crossguard

(Continued on page 61)



Then Captain Rex Applegate, training director of the Close Combat Section, Area B, at the O.S.S. training center at Camp David.

BUTOKUKAI NINJA TRAINING COURSES



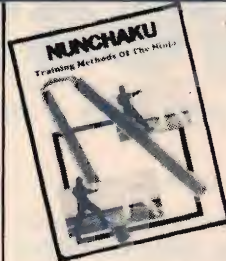
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The Poor Man's JAMES BOND VOL. 2 Kurt Saxon



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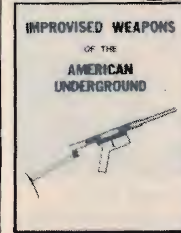
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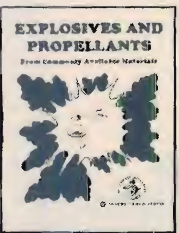
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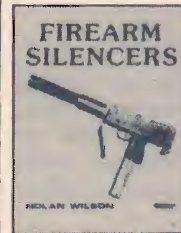
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When you wear a vest it doesn't turn you into a bullet-proof superman . . .



The "Traditional" vest system uses Velcro straps to hold the vest in place under clothing. It is less comfortable when worn for long periods (Silent Partner).

By Duncan Long

HISTORY is filled with the struggle between two types of weapons: offensive weapons, used for attacking an opponent, and defensive weapons which deflect or "neutralize" the power of offensive weapons.

Armor was the major form of most defensive weaponry and probably dates back to prehistoric times when the first cave man used a chunk of wood or animal hide to deflect the missiles thrown at him by an opponent—or angry spouse. And almost from the first, armor has been forced to play catch up as new technologies develop better offensive weapons. Shields, scale armor, chain mail, etc., were all developed to counter lethal missiles, knives, swords, and other "high tech" weapons of the time.

The peak of armor development occurred during the Middle Ages when warriors were

often almost entirely coated with metal armor. Although many think that knights in armor were made obsolete by firearms, in fact metal armor was actually on the decline when the first crude firearms hit the battlefield. Both the pike and arrows were capable of defeating the heavy iron armor worn by knights and many peasants had made life dangerous for knights with thin-bladed daggers capable of snaking between armor plates if an armored warrior were caught by himself.

While knightly armor covering the whole body proved to be too heavy to be practical as weapons became more lethal, body armor over the torso and head remained popular since it did give protection from stray hits and minimized wounds created by long-range fire and ricocheting missiles.

During the late 1800s, the techniques of creating super-tough steels were refined and some experimentation was done using hardened steel plates which actually stopped lead bullets; for a time, it looked like armor like that worn by knights might be back on the battlefield. But offensive weapons technology again leap-frogged ahead with smokeless powder; new high-velocity bullets became capable of penetrating more material including thin steel plates. Because of this, armor remained minimal with only helmets remaining to offer protection from stray shots and artillery shrapnel. Thus, the only armor making the transition from "days of yore" to the 20th century was the "steel pot" helmet. And, even there, the steel in soldiers' helmets is gradually being replaced by ballistic fabrics and rigid resins.

But technology is a fast-paced and ongoing thing. As 20th century industrial researchers started developing new fabrics and plastics, many of the new materials proved to be capable of withstanding the stresses of direct hits from low velocity bullets.

The first modern use of such body armor was seen on U.S. troops during the Korean War. This armor was formed from laminated fiberglass and resin plates which were placed into heavily padded vests. These vests weren't overly "bullet-proof" but were very successful in protecting wearers from shrapnel and saved not a few lives of heroic soldiers who shielded buddies from grenades: wearers often were surprised to still be alive and unharmed after the vest soaked up the entire blast from a communist grenade!

Ballistic Nylon—Later a tough form of plastic—called "ballistic nylon" since it could stop ballistic projectiles—was created and incorporated into military "flak jackets." These jackets saw extensive use on U.S. troops in the Vietnam War; again, the jackets reduced the injuries created by shrapnel but proved to be less than ideal for stopping close-range rifle fire.

The next technological break-through in body armor came in the creation of a new family of aramid fibers called Kevlar ("Kevlar" is a registered trade name used by Du Pont for the aramid fiber). Kevlar was created in the 1960s and became available on a commercial basis in 1972 when it was marketed for strengthening radial belted tires. When it was discovered that layers of the fabric were actually tough enough to stop pistol bullets, it only took a short time for enterprising experimenters to create new "bullet-proof" vests of the material.



Modern ballistic vests are far from heavy and are easily concealed. This modular "T-Shirt Carrier" has a ballistic panel in its front and wraps around over the wearer's sides. A second panel protects his back (Silent Partner).

Unfortunately, Kevlar is not strong enough to stop the .223 Remington or .308 Winchester (5.56mm NATO and 7.62mm NATO respectively) bullets with only a few layers. Therefore, ballistic vests still do not give protection from close-range rifle fire on the battlefield. Nevertheless, because Kevlar is very efficient at stopping low

velocity projectiles (such as grenade fragments and shrapnel) the U.S. military does now use the fabric in its flak jackets; these new jackets have already saved a number of American lives both in Lebanon and Grenada.

While modern "offensive" vests have not yet managed to become truly "bullet-proof" on the battlefield, this isn't the case on the "home front" where criminals—as often as not—use handguns or shotguns to carry out their crimes. In such situations, the ballistic armor shines since many modern vests offer protection from nearly all pistol rounds and shotgun pellets.

Several types of Kevlar are used in vests. The most common type is Kevlar 29. It is five times as strong as steel while having a density about half that of fiberglass. It doesn't melt and can be used without degradation at temperatures from minus 320 to plus 360 degrees Fahrenheit!

Kevlar is normally extruded into small filaments and woven into cloth. Such cloth is strong enough to stop high-speed projectiles and—in layers—bullets. Kevlar cloth does NOT always stop sharp weapons like ice picks or very sharp knives because the points of the weapons can "work" through the fabric. However, such weapons are considerably less effective against a person wearing a vest than they would be when attacking an unprotected person since the fabric is heavy and can only be penetrated with some effort and only if it is struck at the proper angle. Thus, vests are about 98 percent effective in stopping a knife attack.

The number of layers of Kevlar needed to stop any given bullet will depend upon the projectile's speed, make up, mass, and caliber (cross-sectional size). The rule-of-thumb is that the larger the diameter and lower the speed, the less penetration a bullet will be capable of. Likewise, lead bullets or expanding-nose bullets will lose their speed more quickly in Kevlar than will FMJ (Full-Metal Jacket) bullets or those made of steel, brass, etc. These rules can break down in the real world, however. Other complications enter the picture. Consequently, most manufacturers of ballistic armor abhor the term "bullet-proof vest" and prefer the term "ballistic vest" or "bullet-resistant vest."

Kevlar fabric slows down a bullet most efficiently when the bullet strikes the fabric from a right angle. When the bullet strikes at an acute angle or near the edge of the fabric, it will penetrate more layers because less of the bullet's nose contacts the fabric. Because of this, vests are thicker and heavier than they would be if only "head on" shots were to be expected. The size of Kevlar thread and the weave pattern of the fabric has little effect on the protection offered by a vest and tends to be more of a sales' gimmick among manufacturers rather than an important consideration on how Kevlar fabric will perform.

Strangely enough, one piece of Kevlar

fabric folded over to obtain a number of layers is considerably stronger than the same number of layers created by separate pieces of Kevlar. This is especially true toward the edge of the pads of the fabric. Some companies take advantage of this fact to create folded pads of Kevlar for use as inserts on carriers or to increase the stopping power of the vest by inserting a folded pad. This increases the strength of the vest with a minimum of weight.

Kevlar can deteriorate over time when exposed to ultraviolet light. Because of this tendency, modern vests are covered with some type of fabric or the Kevlar coated with a dye which screens out ultraviolet light. If Kevlar armor is to be used outdoors, it is important to be sure the fabric is screened from ultraviolet light; never leave a vest in a car window, out in the sun, etc., or it can quickly become "aged" and its protective qualities greatly reduced.

It appears that some deterioration of Kevlar can also be created with exposure to alkalis or mineral acids. By an unfortunate coincidence, human sweat and the various types of fungi and bacteria that grow in the sweaty, humid conditions to be found in vests which are worn for extended periods can create the very chemicals capable of damaging Kevlar fibers. For this reason, users must either retire vests after five years of heavy use or keep their vests very clean and avoid exposing them to conditions which will cause damage to the vest. Bleaches or cleaning agents containing bleaches are strong alkalis and should NOT be used to clean Kevlar since they would create more damage to the fabric than no cleaning at all. In general, simply rinsing the vests in warm water and then allowing them to become thoroughly dry is probably the best route for cleaning a vest which has become soiled or excessively "sweaty." Avoid cleaning a vest



Silent Partner's "Diplomat" ballistic vest is camouflaged as a dress vest so that it can be worn with a sports coat or suit. It accepts modular Kevlar panels and can be tailored to the user's needs (Silent Partner).



The "Tropical Carrier" and a similar model designed for women allow the wearer to place ballistic inserts in the carrier for variable protection (Silent Partner).

unless the vest is really needing the work.

Wet Kevlar fabric loses much of its ability to stop high-speed projectiles; total saturation will downgrade the fabric by up to 40 percent. This is only temporarily, however, as water does NOT damage Kevlar. Under normal "rain soaked" conditions or when the wearer is sweating a lot, the fabric's protective factor is down graded only very slightly.

Other Materials—Kevlar isn't the only modern material used in "bullet proofing." Ceramic plates, new types of fiberglass and resins, steel inserts, plexiglass, etc., are often used in various types of armor or even vests. Because they are flexible, ballistic nylon and Kevlar are known as "soft armor" by those who work with and sell ballistic armor. Fiberglass, ceramic, or metal plates are "hard armor;" armor created by combining Kevlar with resins or by combining other ballistic material is known as "composite armor."

Steel and ceramic plates are sometimes inserted into Kevlar vests to increase their ability to stop projectiles. Steel plates are heavier than ceramic inserts but are cheaper to manufacture and more resistant to breakage so that multiple hits are less apt to defeat them. When steel plates are backed by Kevlar, their capability is augmented to the point that even .308 Winchester/7.62mm NATO armor-piercing bullets can be stopped by the armor.

As things now stand, however, such vests are impractically heavy. They are ideal only on the battlefield for soldiers carrying out key or high-risk duties like piloting helicopters in enemy territory, guarding exposed areas, disposing of bombs, or entering a building as a member of a SWAT team. For everyday use, these vests are too heavy for extended wear and

(Continued on page 68)

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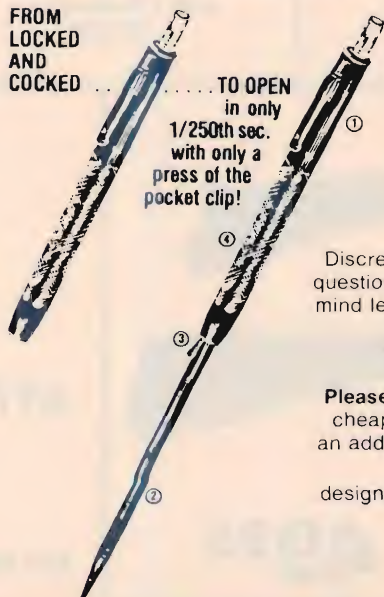


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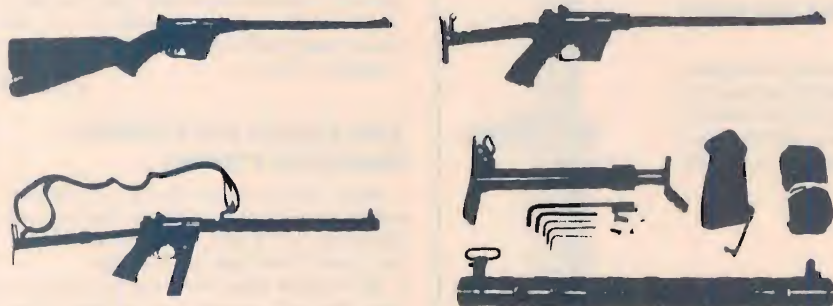
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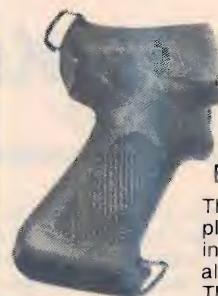
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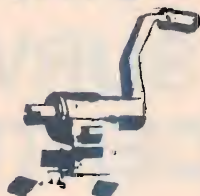
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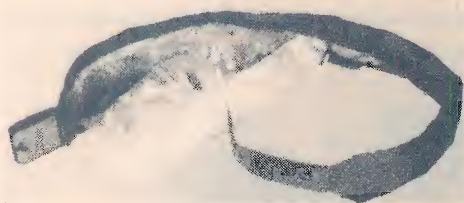
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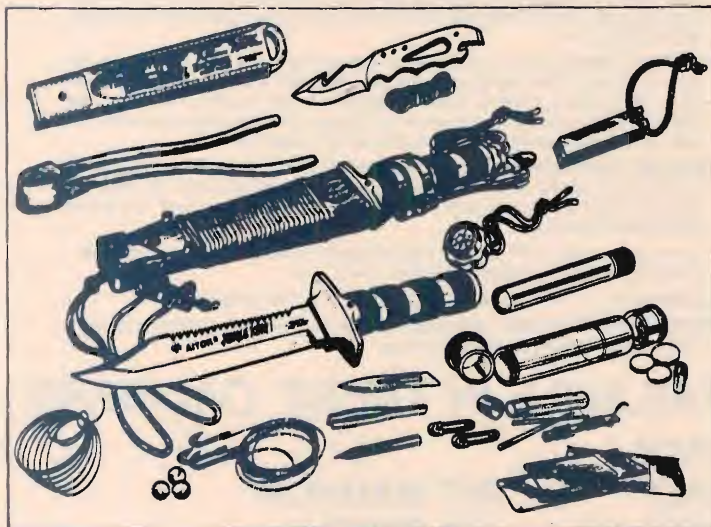
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The recent incident that occurred at Mt. Hood, Oregon has dramatically pointed out the necessity for a sensible, personal survival system. The "SAVE YOUR LIFE" Survival Belt *is just that.*

The fact that you are wearing your survival system is of the utmost importance. You cannot lost it, drop it over a cliff or have it stolen. **IT'S THERE WHEN YOU NEED IT.**

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**Rifle
Light
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By Choate



17⁹⁵

Solid blued steel construction. Clamps to barrel. Accepts any "AA" mini flashlight. Built in taper centers light pattern. Easy to install. Fits: 10/22, Mini-14, UZI, HK 91, 93, 94, AR-7, AR-15, M-1 Carbine, and all Rifles w/ BBL, Diameter of 1/2" to 3/8".

Seeking Calmer Waters

(Continued from page 29)

this is the reason for the existence of the AMVER system which now has at least a score of member countries, including, since 1978, Britain. In fact, the addition of Britain to the system had a useful effect because it brought with it use of a dozen new radio stations in one of the most densely trafficked areas in the world.

The AMVER system is run by the U.S. Coast Guard and provides useful aid in the coordination and development of search and rescue efforts almost round the world. At any one time, night or day, there are literally thousands of ships criss-crossing world sea lanes, and each of these ships is a potential lifeboat. Assuming, of course that her position is known relative to a casualty and she can be contacted by radio. Obviously, the need for constant positional updating is crucial and very sophisticated means of keeping tabs on them are used.

The present global position fixing system started off as a modest hand calculated plot of ships sailing within the USCG's area of search and rescue (SAR) in the Atlantic Ocean. Basically the ships were asked to send in positions at regular times so that if anyone came unstuck there would be help near at hand, and it was very quickly realized that they were often rescuing the casualty before the conventional services were in action.

Success breeds success, as well as organizational difficulties, and as the project unfolded it was found to be vital to bring in a computer to handle all the data, which in turn led to expansion of the service to the North Sea, South Atlantic and Mediterranean. To make use of all the information stored requires some means of providing world rescue centers with details of which ships are close to casualties. This is done by means of surface pictures (SURPICS) showing vessel positions electronically predicted by dead reckoning within a specified area and including the capabilities of the ships. A typical SURPIC will carry name, callsign, course, speed, SAR capability, destination and estimated arrival time. A line shows the point at which each ship will be nearest to the center of the SURPIC area, which will usually be the ship in trouble, and the bearing of the casualty in degrees (true) and distance. In brief, then, a rescue center can immediately summon up a mass of relevant information on many ships near the center of a drama and ask the most likely looking ships to take action.

Expanded Capacity—In 1964 new computer capacity was installed, with the aim of including all ships making offshore voyages of longer than 24 hours anywhere between 83 degrees north and 83 degrees south, assuming that these ships had the communications ability to ensure that their



The AMVER Center in New York is a large room with multiple computer work stations, a chart table and global navigation and communications references (Courtesy of AMVER; Richard Schnurr).

positions were known.

A lot is known about the ships participating, for in addition to information calculated from sail plans and position reports, the AMVER Center stores data reflecting SAR capabilities, propulsion, surface search radar, and whether they have a doctor aboard.

It is of course almost inevitable that such a system should encounter some difficulties, especially if it is run on a near global basis. One of these snags has been the inability to adequately cover certain areas. The addition of the British Portishead Radio station had a beneficial effect as it meant that the signals could "dip down" into some of the "darkest" regions. This did not, however, solve the problem of how best to contact ships around the clock. It is still not always possible to get hold of radio watch schedules of ships so that they can be reached come what may, and it is not unknown for radio officers to go off to breakfast without setting an alarm.

Some ships do not call in as often as they should, which means that the center may not know exactly where they are, and this could mean that a ship could be in mortal danger while there was a ship just over the rim of the horizon without anyone knowing about it.

It is a sad fact that ships of the eastern bloc countries do not have a very good record of membership, and at the time of British entry there were less than a score of Russian ships out of a fleet totalling something like 2,500 ships. On the other hand there were more than half the West German fleet listed, more than three quarters of the Norwegian, and a claimed 100 per cent of American ships.

At this time there are many thousands of ships sailing around the world ready to extend a helping hand to other ships in trouble, but there are also thousands of others which have yet to be roped in. The system has been responsible for many dramatic rescues, such as the taking of seven men from the 140-foot schooner Tina Maria by the SS President Jackson, which somehow managed to come along-

side during a raging gale in the North Atlantic.

Another rescue involved the saving of the crew of the Philippine freighter Don Jose Figueras which burst into flames in the North Atlantic and had swift attention by the Cuba Maru which had shown up on the AMVER SURPIC. The aptitude of the AMVER motto that "No Call For Help Shall Go Unanswered" was proved by the case of a man who was picked up from a sinking 9-foot dinghy in which he was trying to sail from California to Hawaii.

Obviously he didn't go in for weather routing services!

It is of course not only a sinking which triggers an alarm, and this is where relatively small vessels stand to benefit as they do not normally carry a doctor. In fact there are approximately three times as many calls for a doctor as there are in connection with a sinking. One rather offbeat service provided by AMVER is provision of precautionary SURPICS to the pilot of any aircraft carrying a head of state on lengthy flights over sea, and yet another is the provision of SURPICS to the International Ice Patrol when the season arrives for treacherous icebergs to enter shipping lanes.

Knowing which ships are in the regions of heavy ice infestation allows the International Ice Patrol to request additional ice observations, which of course adds generally to safety.

Similarly, severe storms have been followed and accurate warnings based on weather data from ships pinpointed by weather authorities using SURPICS.

When the AMVER system was first started up it was not unknown for reports to be delayed by as much as 24 hours owing to failures in communication, language barriers and slow internal information processing. Things have changed, however, and in January of 1986 it was announced that there had been installation of artificial intelligence in the system to vastly speed things up. This means that reports can now be ready for human checking within 10 seconds and almost immediately available to SAR bodies. ●

From Tekna:

Wilderness Edge

Unique knife and survival system . . .

Staff Report

TEKNA's Wilderness Edge Knife and Survival System, at first glance, can be deceiving. It's not your everyday survival knife and may seem overloaded with mere baubles of one sort or another.

Actually, it's a unique piece of cutlery coupled with an assortment of useful survival gear.

The 5-inch blade (knife is 10½ inches overall) has cutouts which reduces weight and allows it to be quickly snapped on and off of its sheath, a hard plastic arrangement coupled with a "survival module" that quickly unscrews from the sheath frame to reveal a good quality compass, survival information cards, fishing kit and—believe it or not—small reel with line (you can actually cast with the reel, which attaches to the sheath to form a fishing pole), signal mirror with sight, ceramic sharpening rods, fire starter and animal snare.

Inside the hollowed handle of the knife and released by a flick of a lever is a Tekna lithium-powered flashlight that's waterproof and comes with lithium battery with a 10-year storage life.

The blade is sharp and has many uses, although it's not as strong as a heavier, thicker, full-tang knife blade.

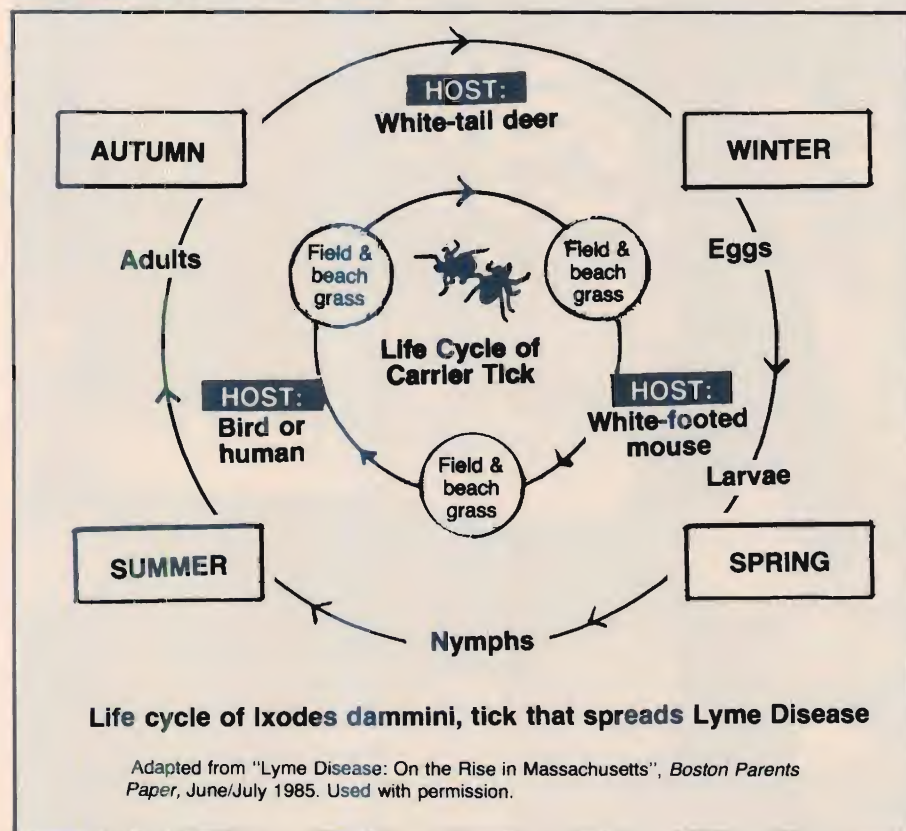
This new knife from Tekna could serve its user well in the wilderness, within its limitations. It's available for \$99.95 plus \$2.50 shipping and handling from SI, Dept. ASG, 18239 S. Figuroa St., Gardena, CA 90248; (213) 324-8855, or toll free outside California (800) 533-7415.



Ticks, Cysts:

Predatory Parasites

Lyme disease and Giardiasis: what they are; how to avoid them . . .



By Maria Louisa Michele

TWO enemies stalk back country visitors—Giardiasis and Lyme disease. Neither are new, but both are spreading faster than before. In 1975 there were 51 Lyme disease cases, 1980 saw 226, and 1984 saw 1,498 reported cases. Giardiasis numbers have also jumped. Oregon had 735 cses in 1982, but 1,223 in 1985.

Giardiasis and Lyme disease share some nasty habits. Both are caused by parasites; Giardiasis by the protozoan *Giardia* (je-ar-de-a), and Lyme by a bacterium carried on the tick *Ixodes dammini*. Both can be caught while hiking. Ticks live in the grass and woods; they jump to passing people. Drink unfiltered water and you may swallow tiny *Giardia Lamblia*.

Trouble starts a few weeks after contact. Giardiasis brings severe diarrhea, weight loss, and vomiting. Lyme disease starts with a false flu—headaches, stiff neck, fever, and fatigue. Weeks or months later half of all Lyme patients have arthritis. Both of these maladies can be treated. Better yet, they're preventable.

Lyme—But to avoid any problem, you must understand it. The bacterium that causes Lyme disease is *Borrelia burgdorferi*. Dr. Andrew Spielman of Harvard discovered how the tick picks up *B. burgdorferi* during its two year life cycle. In the spring, the tick egg becomes a larva. The larva feeds on a white-footed mouse in summer, and picks up *B. burgdorferi*.

The following spring the tick larva becomes a nymph. Come summer, meal number two comes from man, bird, or mouse. That's when Lyme disease is transmitted. Belly full, the tick drops off its host. By fall *I. dammini* is an adult. It dines on blood of whitetail deer and mates.

Lyme season runs from late May through early fall. But, warns the *Boston Parents Paper*, "Adult ticks remain active in the woods and fields when the temperature is above freezing." One victim caught Lyme disease from an adult tick in November. Hunters, beware!

Whether it's cool or hot, ticks cling to grass and bushes waiting for a free ride.

With a mouse or deer host, *I. dammini* won't travel far. On his own, a tick can only travel a few dozen yards. So for the cycle to continue all three animals—ticks, mice, and deer—must inhabit the same small area.

A tick bite doesn't guarantee infection. You have 24 hours to remove the tick. It takes that long for the bacterium to enter your body.

If infected, you might have the false flu. Another symptom found in 75 percent of adults is a donut-like rash. Look for it at the bite site, a week to a month after a tick visit. The red rash grows to a maximum 28 inches across. It's often hot to the touch.

Without treatment, these early symptoms may disappear, and perhaps return. When you think it's over, second stage problems might start.

These begin one to two months after the tick bite. They include joint, nervous system, and heart problems. Even with early treatment, a few still suffer secondary symptoms. Half of all untreated people get arthritis. It hits the large joints—knees, elbows, and wrists. Two nerve problems are aseptic meningitis and facial paralysis.

Second stage Lyme can cause an irregular, or slower, heartbeat and an inflamed heart muscle. "To top it off," said *Smithsonian* magazine, "constant fatigue and lethargy make it impossible for some people to carry on."

Three antibiotics fight back. For adults and children over eight, use tetracycline. Pregnant women and younger children should take penicillin. (Tetracycline will permanently stain teeth.) Allergic patients can use erythromycin.

But, warns Harvard's Dr. Gustave Dammin, "We know that one attack doesn't protect you from future ones." In theory, a person could suffer, and be cured, annually.

You can protect yourself and your land from that annual fate. Avoid areas where

Region	Year			
	1980	1982	1983	1984
New England				
N.H.	—	—	1	—
Mass.	11	15	13	33
R.I.	3	29	20	21
Conn.	52	135	78	483
Mid-Atlantic				
N.Y.	7	170	267	446
N.J.	10	57	70	155
P.A.	1	2	—	5
South Atlantic				
Del.	—	1	4	1
Va.	—	—	—	1
Mo.	1	1	5	12
N.C.	—	—	1	16
Ga.	1	—	—	1
Fla.	—	—	—	1
North Central				
Wis.	25	58	69	174
Minn.	8	22	55	87
Mich.	—	—	1	—
Ind.	—	—	—	1
South Central				
Ark.	—	—	1	4
Tenn.	—	—	1	1
Tex.	—	—	1	18
Mountain/Pacific				
Utah	—	1	—	—
Nev.	1	—	—	—
Oreg.	—	—	—	10
Calif.	—	—	11	24
Unknown	106	—	—	4
Total	226	491	599	1,498

From the *Morbidity and Mortality Weekly Report*, June 28, 1985.

Predatory Parasites



the whitetail deer and white-footed mice live. Or, enter the area protected. Use a bug spray with DEET (diethyl toluamide). Put on "clothing with cuffs that are tight at the ankles and wrists, or tuck pants into high boots," advised *US News & World Report*. Choose light-colored clothing so you can spot dark ticks easier.

Spray Permanone on those light-colored clothes. Permanone is sold in pet shops—but only in some states. It kills ticks on contact.

"After walking in the woods I inspect my skin, every square inch of it," confessed Roger Warner in *Smithsonian*. Look carefully, because "the nymphs and larvae are not much larger than the period at the end of this sentence." Ticks prefer to land on arms and legs.

Only *I. dammini*'s head goes under your skin. Pull on the body with tweezers or glove-protected fingers. Do not use alcohol, vasoline, nail polish, or a hot match tip on ticks. They won't work. After proper removal, use antiseptic.

Besides tick removal, you can make traps. Dr. Spielman and his team have

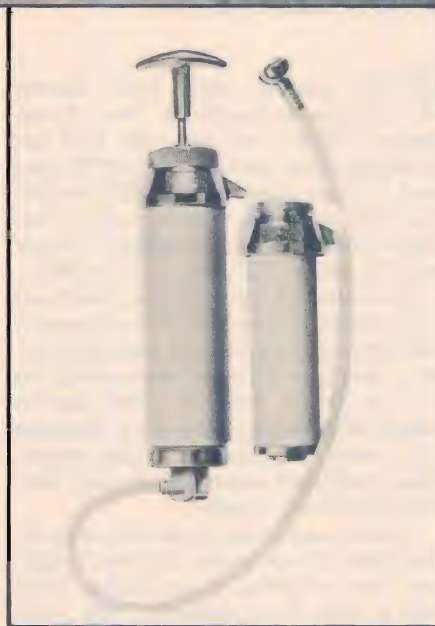
used Permanone to kill ticks where they live. Mice love cotton-lined beds. Cotton sprayed with Permanone kills the parasitic tick, not the mouse. "People who live on the edge of the woods can ring their houses with tubes (of cotton)," said Dr. Dammin. "They can erect a safety zone."

To make a tick trap, you need: Permanone, cotton, silicone spray, cardboard manuscript mailing tube (2 by 4 inches), and a few trapper's tricks. Namely, wear gloves when making and setting traps. Also, don't smoke. Your scent will shout, "Man!"

Spray the Permanone lightly on the cotton. Stuff the cotton into the mailing cylinder. Coat it with silicone for waterproofing. Place a trap near a mouse burrow. Look for "a hole in the ground, only one a half to two inches wide," said Dr. Dammin. "You can see them as you walk through the moors, through scrub oak and bushes."

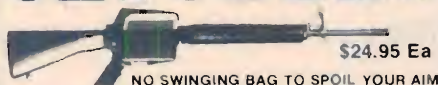
Lyme is a maybe disease. Maybe you'll get the rash, and maybe not. Maybe you'll have arthritis, and maybe not. Prevention

(Continued on page 73)



The excellent Katadyn Pocket Filter eliminates *Giardia lamblia* from water filtered through it.

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THOMPSON 1927 M-1A/M14 NEW-STEN MK II

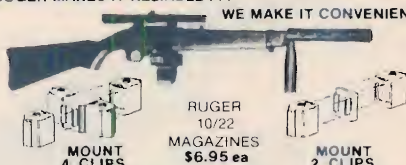
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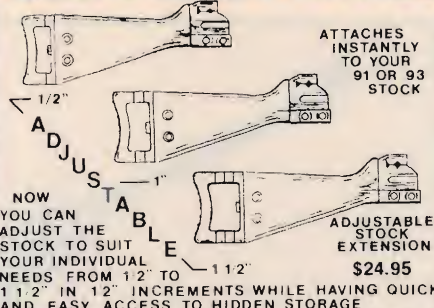


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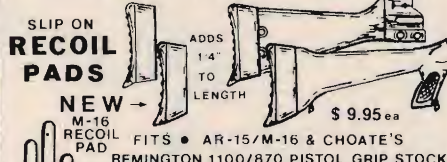
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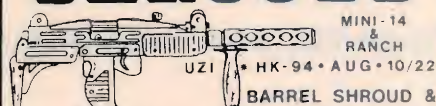
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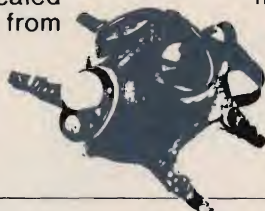
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Israeli Simplex 4 Gas Mask Nuclear, Biological & Chemical protected. Used by Israeli Military Forces. 1 size fits all due to an excellent suspension system; complete with filter, sealed in original wrap. My competitors sell these masks from \$12.95 to \$29.95. Why pay more? \$7.00 or 2 for \$13.00



Israeli Simplex 4 Filters Current Contract/Current Issue replacement filters. The filter features a metal outer body with male fitting which allows a quick & easy filter change while wearing the mask. A lot of dealers sell the mask but do not sell replacement filters. We do both at a low price.

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Israeli Mask Complete with filter in wrap with 1 extra filter.

\$12.00

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\$10.00 minimum order. **CASHIERS CHECKS & MONEY ORDERS** get first attention. **PERSONAL & COMPANY CHECKS HELD UNTIL CHECK CLEARS BANK** (minimum 14 bank working days, no exceptions). **MASTER CHARGE & VISA** accepted. No back orders, either merchandise or refund promptly sent. No COD orders accepted. See the below shipping, handling & insurance chart for the correct amount to send with your order.

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MAY 1987/AMERICAN SURVIVAL GUIDE 47

Dynamit Nobel:

RWS Model 36 Air Rifle

Powerful, precision airgun for hunting, target practice . . .

Staff Evaluation

THE RWS Model 36 air rifle is a new addition to the "magnum family" of airguns from Dynamit Nobel of America.

The Model 36 is capable of surpassing the 1,000 feet per second muzzle velocity barrier in .177 caliber.

It's available in either .177 or .22 calibers and comes equipped with synthetic piston seals, automatic safety, recoil pad, beautiful hardwood stock, dovetail base for scope and precision click micrometer rear sight.

The Model 36 we obtained for testing was in .177 caliber and weighed just under 7¾ pounds with 20-inch barrel. The rifle is about 46 inches in overall length.



Due to time and weather limitations, the tester was only able to spend about an hour with this airgun. He reported that, despite windy conditions during testing and an inadequate rest he was using, he was able to shoot fairly tight groups with RWS Diablo flat-nosed pellets fired from 25 feet.

The Model 36 is a one-stroke cocking air rifle, done by breaking the barrel open. The safety automatically engages upon closing the action after loading a pellet.

The match-type trigger is adjustable.

This is a powerful, precision air rifle which would be quite effective for small game hunting or target practice. It is well balanced and beautifully finished. For more information about the Model 36 and other fine RWS air rifles and pistols, scopes and accessories, see your dealer, or write to Dynamit Nobel of America Inc., Dept. ASG, 105 Stonehurst Court, Northvale, NJ 07647. ●



Rear sight is click adjustable for windage, elevation.

Survivalist Directory

(Continued from page 20)

ASG 0526

Olney, Maryland, active duty military: survivalist consortium desires liaison with current military members for mutually beneficial association. We are interested in your training abilities in tactics and weapons, as well as your familiarity with conventional and state of the art weaponry. Our exclusive membership demands and extends the highest degree of confidentiality.

ASG 0527

North Central West Virginia, survivalist would like to make contact with other survivalists in area.

ASG 0528

Sidney, Nebraska, honest, knowledgeable, hardworking family of 5 want to relocate to a serious, small group or community or survivalist families somewhere in the northwest. No racists, cult groups or druggies.

ASG 0529

Edison, New Jersey, 15-year-old survivalist looking for other military enthusiasts, in this general area. Also interested in anyone with survival information of any kind.

ASG 0530

Northwest Arkansas, interested in communicating with serious-minded, family oriented survivalists in the area. Varied skills and interests. Low profile. Motivated. Serious responses only. No religious extremists, please.

ASG 0531

Ruston, Louisiana, interested in farming association with survivalists, in Louisiana and southern Arkansas. Family centered, conservative, rural people interested in networking of information. Need medical staffer.

ASG 0532

Bellevue, Washington, uniquely qualified and capable individual with small family seeking serious-minded group in N.W. Washington/Seattle area.

ASG 0533

Houston, central, and east Texas, serious survival group now being formed. Serious applicants wanted, beginners accepted if willing to work hard to match preparedness of those who have been at it longer. Also interested in contacting survivalists and groups in central or east Texas, for mutual support planning. If serious about joining and making a group work, send short resume.

ASG 0534

Missoula, Montana, serious survivalist wants contact with others interested in moving to Southern Hemisphere permanently. Sensible, family oriented work toward self-sufficiency. No Rambo's, fanatics, or dreamers.

ASG 0535

Pittsburg, Kansas, small serious group with medical and military skills. Low profile, highly serious. Want to contact individual groups in S.E. Kansas, 4-state area.

Address response letters as follows:

American Survival Guide

ASG 0000 (Code Number, As Above)
2145 West La Palma Avenue
Anaheim, CA 92801

Your letters will be forwarded to persons listed within two days of receipt. *American Survival Guide* accepts no responsibility for loss or delay of inquiry letters. Contact letters that do not carry the appropriate code number will be discarded.

Those who wish to be added to the directory listing, please send names and addresses to *American Survival Guide*, 2145 West La Palma Avenue, Anaheim, CA 92801. The listing is free. ●

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Terrorism:

Anonymous Death

What can you do to protect yourself from letter bombs and other terrorist explosive devices? . . .

By Greg Souchik

WARNING!

LETTER AND PARCEL BOMB RECOGNITION POINTS

- Foreign Mail, Air Mail and Special Delivery
- Restrictive Markings such as Confidential, Personal, etc.
- Excessive Postage
- Hand Written or Poorly Typed Addresses
- Incorrect Titles
- Title but No Names
- Misspellings of Common Words
- Oily Stains or Discolorations
- No Return Address
- Excessive Weight
- Rigid Envelope
- Lopsided or Uneven Envelope
- Protruding Wires or Tinfoil
- Excessive Securing Material such as Masking Tape, String, etc.
- Visual Distractions

YOU can't pick up a newspaper, turn on the radio or the TV news without hearing of some act of terrorism. Hijackings, political kidnappings, assassinations, extortion, bombings, etc. Things that Americans at one time could almost ignore. Try as we might we can no longer ignore such events because they are taking place in some other part of the world. Today terrorism is alive and well and living in America.

Terrorism as the State Department has found out is very hard to combat. Terrorists do not play by any set of rules. They do not wear uniforms and in general only sign their macabre works by an anonymous phone call some time after the fact if at all. To call them as a group cowardly would be an over simplification, as most have some "cause" in which they believe. This being the driving force behind their acts. Some of them as we found in the Beirut suicide bombings, are willing to give up their lives for the cause.

One of the most common tools of the terrorist is the explosive device or bomb. Devices such as these are probably one of the most frightening aspects of terrorism as bombs are very seldom aimed at a particular individual but rather used as an area weapon, injuring and killing anyone who is unfortunate enough to be near enough to the detonation. Bombs are being used against large corporations, abortion clinics, banks and other institutions and even at individuals with the mailing of letter bombs.

What can you do to protect yourself from these types of situations? Unfortunately sometimes not much. If a bomb is detonated in a building you are in or near or in a car that you happen to be walking past, you may become a victim. However as in all types of survival situations, using your brain and being *aware* of what is happening around you at all times can make a great deal of difference.

Be aware of people places and things. For example, you are standing outside of Chase Manhattan Bank waiting for a bus and you observe a person carrying a package who is noticeably nervous, maybe sweating profusely in the middle of winter (you'd be nervous too carrying 20 lbs. of explosive, a couple of batteries and a cheap alarm clock some crazy wired up and ordered you to deliver), and he sets the package down and rapidly walks away. In New York or any other major city no one leaves valuables unattended, so you might be advised to just as rapidly find another place to wait for a bus.

Be aware of objects that don't appear as if they belong. A briefcase left in a restroom, a package or suitcase unattended, something left in a doorway. Ninety-nine percent of the time they could be what they appear to be but if you are in an area or place or business that could be called a target don't take a chance.



This mock-up of a letter bomb carries telltale signs that enable you to identify it as a potential bomb.

Rules—If you remember anything from this article, keep these three rules in mind: 1) If you find a bomb or suspected bomb **UNDER NO CIRCUMSTANCES TOUCH IT OR ATTEMPT TO MOVE IT.** 2) **GET AWAY FROM IT.** 3) Call the bomb squad. Forget what you have seen on TV or at the movies concerning bombs.



A briefcase unattended should flash a danger signal in your mind. It should be reported to the proper authorities and given a wide berth.

There may be any number of motion-sensitive triggering mechanisms on the device that will detonate if you pick it up to move it. It may also have magnetic and/or heat-sensitive detonation. And forget about dropping it in water. Almost all sophisticated devices are equipped with an open contact or sodium detonation for water. I repeat, **DO NOT TOUCH IT AND GET AWAY FROM IT.** The only safe procedure is to "create distance." Keep in mind trained professional explosive ordnance demolition personnel are killed on a regular basis.

Bombs can come in any size, shape or color. They can be molded into common looking objects such as figurines, lamps, etc. They can be made from military type plastic explosive such as composition C-4. They can be made from dynamite, trinitrotoluene (TNT), black powder, smokeless powder, nitroglycerin and hundreds of other chemicals.

They can be detonated by three basic means: heat, shock and friction. The primary explosive detonator in a time bomb is the electric blasting cap. Again, this can be augmented by chemical, heat (fuse) and other initiators. These can all be contained as separate or series detonators in the same unit. The type and complexity of the bomb is only limited by the twisted mind of the maker.

Another source of concern is the letter bomb. It is small, concealable, delivered by the U.S. Postal Service to the target and



Blasting caps are ignitors in many modern terrorist devices. These by themselves are very dangerous unless handled properly. The two with wire sticking out of them are electric caps. The other is a non-electric or fused cap.

deadly. Letter bombs sent to corporate business heads at their place of business rarely reach their intended target. Rather they are opened by unsuspecting mail room personnel where they rain destruction and death. Most letter bombs can be easily distinguished by recognition points. Offices that have a high volume of mail and may be a target can get x-ray, scanning or "sniffer" machines that point out the letter bomb before it is opened. Again if you are *aware* that there might be a problem and you are on your toes and cautious you can survive.

We can't rid ourselves of terrorism or bombers by closing our eyes to the situation. Anarchists have been with us a long time and probably will be with us in the future. But you can make their job much harder and possibly avoid their grasp by making yourself more aware of your own situation, minimizing your risks and avoiding possible danger spots. ●

Safety:



Handgun Powders

Understanding powders and how they perform could save your life . . .

By Bud Lang

IF YOU'RE interested in handgun shooting, and do quite a bit of it, then it behooves you to take up handloading. To consider otherwise, unless you're wealthy and don't care how long your fortune lasts, you'll soon find yourself in the welfare line.

Let's face it, for all their worth, factory loads are expensive. Factory ammo today is of excellent quality, and the variety is endless, but if you expend even a couple hundred rounds per week your wallet is going to be depleted, fast.

Handloading equipment requires a moderate investment, but you'll very likely make it up in component savings within a year or less. When it comes to brass, you probably already have a lot of once-used factory brass, so you don't have to worry there. You will have to invest in bullets, primers and powders, however. These are your expendables, and must be replaced for every loading. The brass will eventually wear out, too, but it lasts a lot longer.

Of all of the above, you naturally have to worry about primer and powder storage and handling. These things can get a little warm if mishandled. A good friend of mine had a primer ignite during a loading session years ago, and part of the primer cup hit the rivet at the lower end of the fly on his Levis. Thank Levi Strauss for using rivets.

I've never heard of any powder mishaps, where powder has ignited, but I'm sure they have occurred. On the other hand, I did blow up the barrel on an S&W revolver due to a few weak rounds that stacked up in the barrel (this was during the Korean war, and the military ammo I was firing was bad). A "good" round rear-ended the rounds already lined up in the bore and ruptured the top of the barrel. The moral here is, ammo, and powder, should be stored properly. In my circumstance, I, or someone near by, could have been seriously injured from flying lead or bullet jacket material.

Because this is such a serious subject, let's talk about smokeless handgun powders currently in use, what they're all about, how to store them, precautions to take in handloading, etc.

Properties—According to the Sporting Arms and Ammunition Manufacturers Institute (SAAMI), Inc., smokeless powders, or propellants, are essentially mixtures of chemicals designed to burn under controlled conditions at the proper rate to propel a projectile from a gun.

Smokeless powders are made in three forms: 1) thin, circular flakes or wafers; 2) small cylinders; and, 3) small spheres.

Single-base smokeless powders derive their main source of energy from

nitrocellulose.

The energy released from double-base smokeless powders is derived from both nitrocellulose and nitroglycerin.

All smokeless powders are extremely flammable; by design they are intended to burn rapidly and vigorously when ignited.

Oxygen from the air is not necessary for the combustion of smokeless powders since they contain sufficient built-in oxygen to burn completely, even in an enclosed space such as the chamber of a firearm.

In effect, ignition occurs when the powder granules are heated about their ignition temperature. This can occur by exposing powder to: 1) a flame such as a match or primer flash; 2) an electrical spark or the sparks from welding, grinding; 3) heat from an electric hot plate or a fire directed against or near a closed container even if the powder itself is not exposed to the flame.

When smokeless powder burns, a great deal of gas at high temperature is formed. If the powder is confined, this gas will create pressure in the surrounding structure. The rate of gas generation is such, however, that the pressure can be kept at a low level if sufficient space is available or if the gas can escape.

In this respect smokeless powder differs from blasting agents or high explosives such as dynamite or blasting gelatin, although smokeless powder may contain chemical ingredients common to some of these products.

Smokeless powder differs considerably in its burning characteristics from common "black powder."

Black powder burns essentially at the same rate out in the open (unconfined) as when in a gun.

When ignited in an unconfined state, smokeless powder burns inefficiently with

an orange-colored flame. It produces a considerable amount of light brown noxious smelling smoke. It leaves a residue of ash and partially burned powder. The flame is hot enough to cause severe burns.

The opposite is true when it burns under pressure as in a cartridge fired in a gun. Then it produces very little smoke, a small glow, and leaves very little or no residue. The burning rate of smokeless powder increases with increased pressure.

If burning smokeless powder is confined, gas pressure will rise and eventually can cause the container to burst. Under such circumstances, the bursting of a strong container creates effects similar to an explosion.

Deterioration—Although modern smokeless powders are basically free from deterioration under proper storage conditions, safe practices require a recognition of the signs of deterioration and its possible effects.

Powder deterioration can be checked by opening the cap of the container and smelling the contents. Powder undergoing deterioration has an irritating acidic odor.

When storing powder, make sure it is kept away from heat sources, as this may cause deterioration. Such exposure produces an acidity which accelerates further reaction and has been known, because of the heat generated by the reaction, to cause spontaneous combustion.

Never salvage powder from old cartridges and do not attempt to blend salvaged powder with new powder. Don't accumulate old powder stocks.

The best way to dispose of deteriorated smokeless powder is to burn it out in the open at an isolated location by scattering it in small piles, not more than one-inch deep. You should never burn more than one handful at a time. Use an ignition train (an old cloth or paper) of slow burning material so that the person may retreat to a safe distance before the powder ignites.

Smokeless powder is intended to function by burning, so it must be protected against accidental exposure to flame, sparks or high temperatures.

For these reasons, it is desirable that storage enclosures be made of insulating materials to protect the powder from

external heat sources.

Only the smallest practical quantities of smokeless powder should be kept in storage, and then in strict compliance with all applicable regulations and recommendations of the National Fire Protection Association.

Do not store your smokeless powder in the same area with solvents, flammable gases or highly combustible materials. Do not smoke in areas where powder is stored or used. Do not subject the storage cabinets to close confinement. Keep your storage and use area clean. Do not store all your powders in one place. If you can, maintain separate storage locations. Many small containers are safer than one or more large containers.

Handloading—Winchester Western has over 100 years of experience in manufacturing ammunition and ammunition components. Through their dealers they offer handloaders Winchester Ball Powder Loading Data booklets that you'll find very informative. Data in these booklets is the culmination of very extensive testing which insures the reloader the best possible results.

As with all booklets or books on reloading, where data specifies certain components, no changes or substitutions can be made without risking a large change in the level of ballistic performance and/or safety of the loads shown. The only exception is where you substitute another bullet of the same type and weight from a reputable manufacturer.

Winchester offers the following precautions to help assure maximum enjoyment and safety in reloading and to assure uniform performance of your reloads. Remember that you can be badly injured or suffer severe burns if the strictest safety precautions and housekeeping rules are not enforced.

1. Exercise care at all times and wear safety glasses while reloading.
2. Never smoke while handling powder or primers or during any reloading operation.
3. Keep powder and primers away from heat, sparks and open flames.
4. Store powder in a cool, dry place at all times.
5. Never use a powder unless you are



An H&K P7 pistol loaded with 9mm Frontier 124-grain FMJ ammo, when fired, doesn't emit any flame. Almost all the power burns inside the bore.



Firing a Colt revolver with 4-inch barrel with Federal's 125-grain JHP in .357 Magnum produces quite a flame in front of the muzzle. All the powder was not burned here.

Handgun Powders



A snubnose (2¾-inch) S&W M29 in .44 Magnum is fired with handloads carrying 21 grains of Hercules 2400 powder. This powder burned almost completely in this ultra-short barrel, emitting only a small puff of smoke.



Remington's 125-grain SJHP in .357 Magnum produced a tremendous flame in front of the 4-inch Colt.



Remington's 9mm 115-grain JHP in a Browning Hi-Power emits only a small amount of flame.



There was a total absence of flame from this .45 ACP chambered Grizzly pistol firing a handload using 4.8 grains of Hercules Red Dot powder.

certain of its identity.

6. Do not mix powders.
7. Devote full attention to reloading operations—avoid distractions.
8. Keep powder and primers out of reach of children.
9. Use components as recommended; don't take shortcuts.
10. Never exceed maximum recommended loads.
11. Develop a loading routine to guard against mistakes.
12. Examine every shell or cartridge before loading to insure good condition.
13. Double check every operation for safety and uniformity.
14. Check powder charge level in shells to avoid double charges.
15. On centerfire loads, start with charge weights 10 percent below recommended maximum loads, except as noted in data.
16. Always watch for indications of excessive pressure.
17. Do not decap live primers; it is safer to destroy them by firing the empty shell or cartridge in a firearm.
18. Do not substitute components, except bullets where previously stated; it could result in a significant change in ballistics, and could result in an unsatisfactory or even dangerous load.
19. Observe all local fire regulations and codes with respect to quantities of powders

and primers stored and conditions of storage.

20. Store powder only in its original container. Never transfer it from one storage container to another since this increases the possibility that it may become mislabeled.

Winchester Ball Powder—Ball Powder smokeless propellant is the product of an exclusive manufacturing process carried on commercially by Olin Corporation since 1933.

A graining process forms the nitrocellulose extrusions into spheres in carefully controlled size ranges. Further processing impregnates materials to change potential and adds deterrents to modify burning rates. Rolling flattens the grains to make final adjustment for powder speed.

Here are a few advantages to be realized in using Winchester Western Ball Powder propellant.

It exhibits the greatest chemical stability ever attained in a small arms propellant.

It has a very high grain density.

You'll experience low barrel erosion due to lower flame temperature for a given speed of powder.

You'll experience less muzzle flash than with comparable powders.

High accuracy and ballistic uniformity can be realized.

Excellent and uniform flow and packing

qualities in your powder measure will result in more uniform "thrown" charges.

At present, Winchester Western offers two Ball Powders for use in handguns, Winchester #231 powder is a very fast and high energy pistol powder designed for target and standard velocity loads in handguns. This powder is popular with reloaders and police departments. Winchester #296 powder is designed to produce the optimum in case volume considerations. This is the factory powder in calibers such as the .357 Magnum, .44 Magnum, and .30 M1 Carbine.

Hercules Powders—Like other powder manufacturers, Hercules has its one set of safety guidelines that handloaders will do well to follow. They insist you should NEVER substitute any Hercules smokeless powder for black powder, or for Pyrodex, or for any other smokeless powder. You should NEVER mix together any two powders, regardless of type, brand, style or source. You should NEVER use the data in the Hercules Reloaders Guide for any other powders, even if advertised "similar to Hercules Bullseye" or "burns same as Hercules Red Dot," etc. Wisely, they claim that violation of any of the above safety rules could result in severe personal injury (including death) or gun damage.

The ballistic data presented in Hercules

(Continued on page 60)

Camelids:

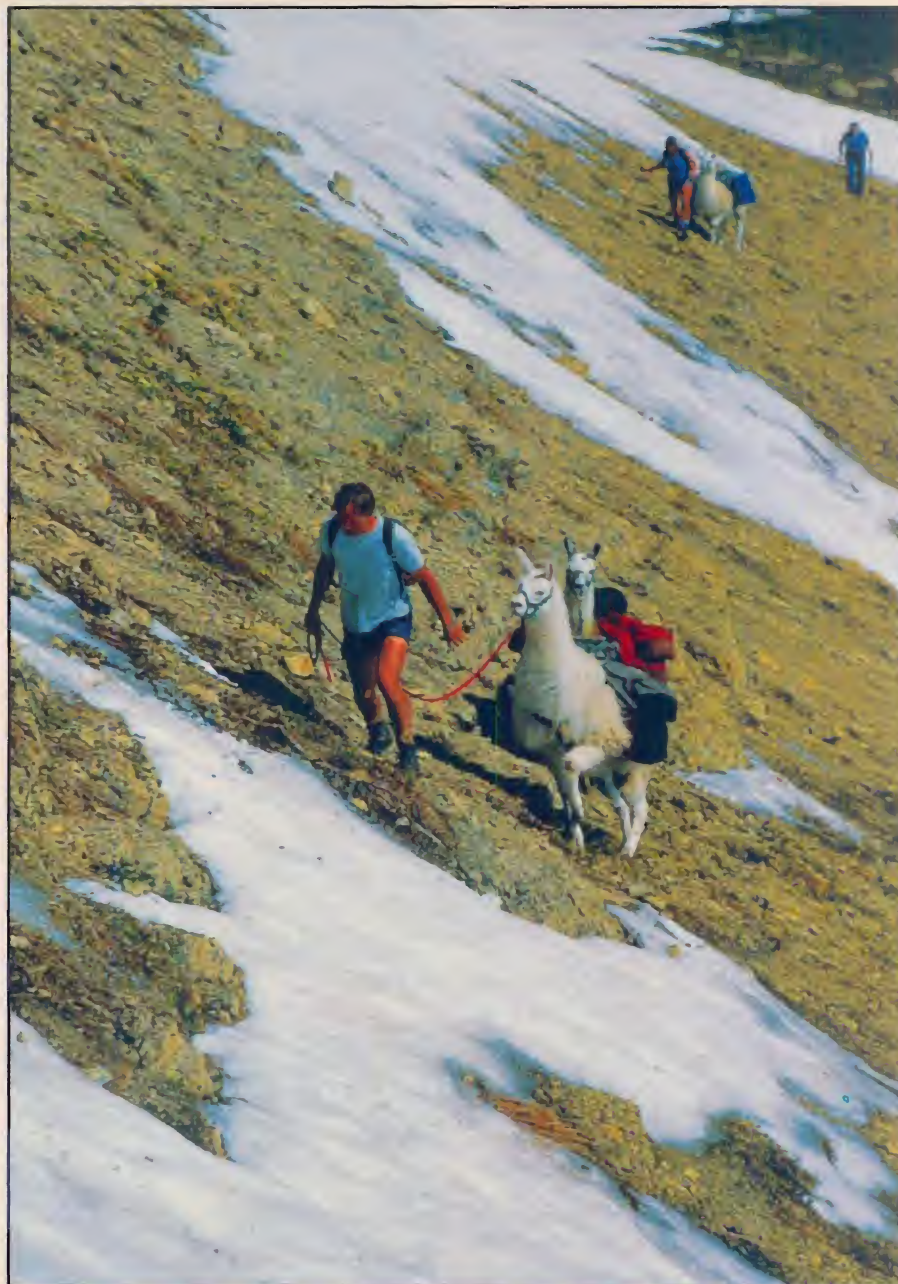
Llamas

Ideal pack animals . . .

By Bill London

PHOTOS BY STEVE ROLFING

IMAGINE the ideal pack animal for any survival situation. It would have to be hardy—able to withstand climatic extremes on minimal feed and water, and able to cover difficult terrain, from steep slippery slopes to the over-and-under of thick tree-



Llamas

less forests. The animal should also be easily trained and dependable, gentle enough for any family member to handle, yet strong enough to carry a good load on a long trek.

Such a beast should also walk lightly, leaving no obvious trail and surviving on a wide range of food from hay and grain to brush and bark. It also needs to be small enough to live on either suburban acreage or at a remote mountain retreat, and easily transported between those points.

Does such a mythical beast exist?

Yes—it's the llama, the camel family member native to South America's Andes Mountains. For 6,000 years of Inca civilization, if a bundle wasn't carried on a human back in the Andes, it was packed on a llama. Until the arrival of the Spanish, there were no wheeled vehicles, mules, burros or horses there.

Since its importation to the United States early in this century, the llama has gradually moved from the zoos and exotic animal collections into the workaday world. Llamas now regularly carry supplies for hunters, surveyors, hikers, and foresters all across this country. The llama has become a beast of burden in both North and South America.

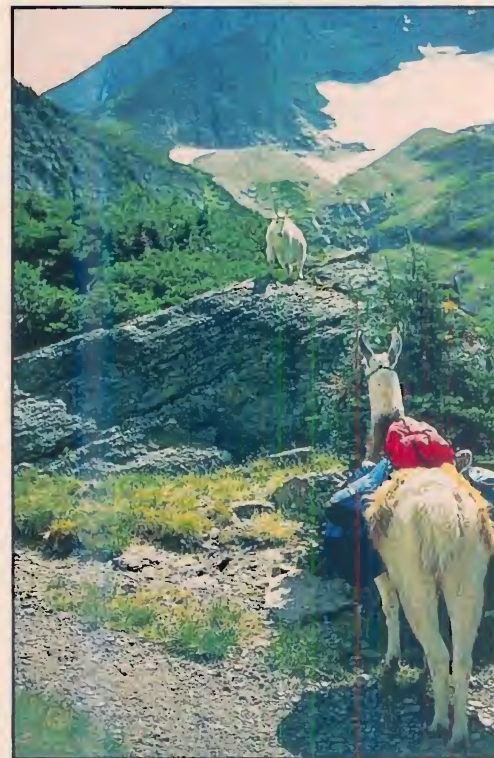
Professional llama outfitters offer pack trips throughout the U.S. (from guided tours with prepared meals of chilled wine and lobster tails to less elegant rent-a-llama hikes). The llamas carry the supplies on the treks leaving the hikers unburdened to more fully enjoy their journey.

The men and women who raise llamas and pack with them professionally are in the best position to evaluate the animal, and their responses range from the decidedly positive to the wildly enthusiastic. The llama, it seems, is a delightful animal that inspires affection and dedica-

tion in its owners.

It is a decidedly curious beast. A fluffy rabbit tail and a wide and shaggy body, resembling an overgrown sheepdog, is somehow perched on four smooth deer-like legs. Like a miniature pony, it weighs about 350 pounds, and by lifting its graceful neck, can stare directly into the eyes of the nearest human. And stare it does, with its nostrils sniffing, millimeters from the nose of any unfamiliar person. A llama's glance is inquisitive and intelligent, without the trepidation and spookiness found too often in horses.

Beneath that goat-like curiosity lies a gentle demeanor, the llama packers agree. From age 4 to age 80, a person who can



walk, can lead a llama. Almost anyone can handle llamas because they generally don't bite, kick, or spook. A grouse flushed from its hiding place that will send a horse into a five minute frenzy will only cause a llama to jump and then stare. And in the event of a disagreement, the human is not hopelessly out weighed and intimidated. And instead of a broken ankle from a misplaced horse's hoof, the wide pad of the llama's foot is only mildly discomforting, and easily moved. The animal's docile nature could prove invaluable in tense and uncertain survival situations.

Hard-Working Companions—On the trail or on cross-country treks, llamas have proven themselves to be pleasant and hard-working companions. With a light prancing step, llamas move up the trail at a comfortable 2 or 3 mile per hour pace. They are much quieter than horses. Instead of equine snorts, neighs, and

bellows, llamas hum while on the trail. That deep-in-the-throat tuneless hum is a signal of their contentment and is also offered as a greeting of familiarity.

Llamas can be ridden, but because of their load limitations (they carry 80 to 120 pounds each), generally they are used as pack animals, leaving the tender unburdened. Even with a full pack, llamas can go almost anywhere people can walk—and many places that horses find impossible. Llama packers can relate tales of their animals crawling under logs, through thick brush, or up steep slopes no horse or mule would ever try. During a survival situation, that option of cross-country mobility could easily offset the horse's advantage of distance and packing weight.

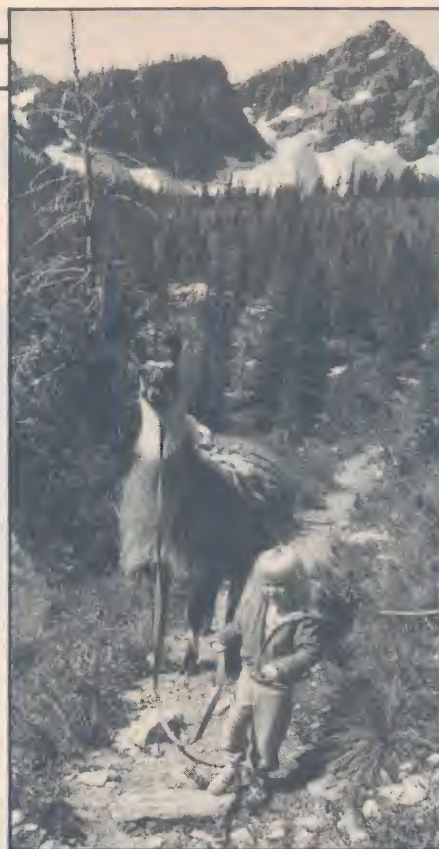
Now is a good time to mention, and quickly put to rest, an old myth. Llamas don't spit at people—or, more accurately, well-cared-for llamas don't spit at people. Spitting is one of the animal's defense mechanisms and if llamas are caged and harassed at zoos, they will retaliate by spitting at their tormentors. But the professional outfitters, even those with strings of 50 or more, agree that no one is ever in danger of an attack of well placed llama expectorant.

Another thing llamas don't do is tear up existing trails or leave obvious paths, quite unlike the impact of steel-clad horse hooves. Their well padded wide foot and smaller body weight combine to result in less impact than a vibram-soled hiking boot. Also, their droppings are deer-like pellets, almost odorless and virtually unnoticeable. And if tied, they do not trample and plow the ground with their hooves. If you ever wanted to travel somewhere without leaving a trail behind you, llamas would be the best companions.

Like the other members of the camel family, llamas have a well deserved reputation for hardiness and freedom from disease. They aren't picky eaters and can survive on almost any plant food. Also, their hooves don't require shoeing, and can withstand long difficult passages over broken terrain. An understanding of the harshness of their native habitat easily explains the animal's hardiness.

The llama is native to the altiplano—the treeless desert at about 14,000 feet of elevation high in the Andes. It's cold, windy and dry there, with very little forage. Yet the llamas survive there, and live there today in great numbers. In remote sections of the altiplano, llamas have not yet been replaced by trucks and remain the principal mode of transportation.

The llama was of paramount importance to the pre-Inca and Inca civilizations throughout the Andean region. To those people, the llama was an all-purpose animal (as the llama can be used for any of those purposes by their modern-day



owners). Besides the animal's function as a beast of burden, the Andean people used llamas as a source of meat, wool, and leather. Dried llama dung was sometimes the only available fuel in the treeless altiplano.

Llama wool is a highly valued item today, and for many American llama-owners, it's an important cash crop. The animals are often not sheared, but brushed to gather the hairs. Sheared llamas don't pack as well. Also, brushing tends to collect only the downy inner hairs (leaving the stiff guard hairs), so the wool collected is of higher value.

Llama wool can be spun and worked into garments. Yet it is strong enough to be braided into ropes, like the Incas did for centuries. Generally, llama wool is worth about two dollars per ounce, and it is possible to gather up to 10 pounds per animal per year by brushing.

With all their virtues, llamas might have crowded horses and mules out of the packing business and sheep out of the wool business if it weren't for the llama shortage. There just aren't enough to go around. Llamas are slow to reproduce. After an 11½-month gestation only one cria, as young llamas are called, is born. Domestic herds increase slowly in numbers, but importing llamas is an even slower method.

Almost all of the world's 3½ million llamas live in Latin America (and most of those in Bolivia), but shipping any of those animals to North America is virtually impossible. By international treaty, the Andean countries have agreed to export none of their domestic camelids (the

llamas, guanacos, vicunas, and alpacas). Furthermore, since 1928, no grazing animal has been able to be imported to the U.S. from a country that is contaminated with foot and mouth disease, a highly contagious virus—and none of the Latin American countries are presently certified free of that malady. For a short period in 1983, Chile was declared free of the virus, and three small shipments of camelids were sent to the U.S. Soon thereafter, the disease was found again in Chile, and the ban was reinstated. The result is that virtually all the North American llamas are descended from the few animals imported before the 1928 ban.

As is common in situations where demand outstrips the supply, the price of llamas is rising rapidly, and not everyone who wants a llama can afford one. Show quality females are worth up to \$50,000 now, and some breeders expect the price to double in the next few years. However, lower quality animals not of excellent breeding, but adequate for packing, cost upwards of \$1,000.

To North American packers, llamas certainly have been a good investment. Those outfitters also agree that llamas are excellent hiking companions, well suited to commercial pack trips in the mountains of the U.S. and perhaps, also worthy of becoming an integral part of your survival plan. ●

Access To Information

Publications:

ILA Newsletter
International Llama Association
14666 Horse Creek Road
Bozeman, MT 59715

Llama World Magazine
P.O. Box 9293
Seattle, WA 98119

Packers:

Great Northern Llama Company
1795 Middle Road
Columbia Falls, MT 59912

Siskiyou Llama Expeditions
P.O. Box 1330
Jacksonville, OR 97530

Shasta Llama
P.O. Box 1137
Mt. Shasta, CA 96067

Rocky Mountain Llama
865 Seventh
Boulder, CO 80302

Inca Roads Trail Service
800 Tyler Creek Road
Ashland, OR 97520

Llama Treks
Camp Polk Road
Sisters, OR 97759

Mama's Llamas
P.O. Box 655
El Dorado, CA 95623

Tornadoes:

Look Skyward, Neighbor!

Be your own weather prophet . . .



A tornado photographed as it approached Okawville, Illinois.

By Grover Brinkman

REGARDLESS of the season, it is good practice to glance skyward a few times and check the turmoil building in the heavens.

Clouds, the poet said, are God's lace stretched across the loom of the sky. No one could have phrased it better. One might add that these same clouds are also the barometers of tomorrow's weather, and we might profit if we learn to read them better and more often.

Statistically, we pay far less attention to "sky watching" today than we did at the turn of the century or before. The media, radio and television, are our daily "weather policemen," and usually they do a pretty good job.

But in grandfather's day, and before, one watched the clouds with purpose. Skies were studied daily, especially upon arising. All the ancient weather signs were given consideration.

In rural America, the teenager ready to walk to a rural school perhaps several miles distant, realized that if a severe weather change was afoot, it was wise to prepare for it. There were no buses in those days.

If one found, upon arising, that the sky was laced with nimbus clouds, bad weather was approaching. One dressed accordingly. If, on the other hand beautiful cumulus formations loomed on the western horizon, one knew those

woolpack clouds were indicative of good weather ahead.

Most of the young at the turn of the century had a basic knowledge of clouds, what different formations indicated. Cirrus were detached clouds of delicate, fibrous appearance, often with featherlike structures, generally more white than gray. Often these clouds were in weird shapes, such as isolated tufts, thin filaments in a blue sky, spreading out in the form of feathers.

The rural boy or girl learned in early life to watch the sky. Cirro-stratus clouds, cirro-cumulus, alto-stratus, alto-cumulus, strato-cumulus all had a part in the

(Continued on page 63)

SI:

Golan Parka

Warm and so light you forget it . . .

Staff Report

THE Israeli "Golan" parka was made to protect troops occupying the Golan Heights in Syria. Filled with holofill material, this ¾-length garment is one of the finest winter parkas available.

It's made to the exacting specifications of the Israeli military. It will keep you warm even when the wind is whipping the cold about you, yet it's so light you'll forget you have it on. The outer layer is finely woven cotton/nylon and is almost waterproof. You get the normal hood with drawstrings, lots of pockets and the olive green of the military.

The Golan parka is \$47.50 plus \$3 shipping and handling from SI, Dept. ASG, 18239 S. Figueroa St., Gardena, CA 90248; (213) 324-8855. •



LIVE FREE PRESENTS SURVIVAL ACTION 1987

A PROGRAM OF PREPAREDNESS

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NORTHEAST

PENNSYLVANIA: MAY 9-10, NBC Survival Seminar. JUNE 27-30, Wilderness survival pack trip. NOVEMBER 13-15, Survival hunting and foraging trip. For all above contact: Sgt. Yorks Army Navy Store, 900 Market St., Lemoyne, PA. 17043, (717) 761-3819. NEW YORK: JULY 25-26 Survival skills rendezvous. Contact: Bold Adventure USA, P.O. Box 873, Rome, NY 13440 (315) 339-3932

MIDWEST

INDIANA: APRIL 25-26 Field seminar on survival in a Soviet occupied America. SEPTEMBER 12-13, Survival self-reliance workshop. Contact: Live Free Region 7, P.O. Box 1743, Harvey, IL. 60426, (312) 928-5830. OHIO: JUNE 13-14, Self defense training and paint gun games. AUGUST 22-23 combat survival and paint gun game. Contact: Dan Hudson 1-800-336-2064 or (513) 399-0062

SOUTHWEST

ARIZONA: For information on activities scheduled for this region contact: Leonard Hoover PO Box 894 Snowflake, AZ 85939 or call (602) 537-2566

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TEXAS: May 11-13 Family survival seminar including nuclear war and outdoor survival. Contact Live Free Central Region, 3701, W. Alabama, Suite 450-369, Houston, TX 77027. OCTOBER 16-18, Civil Defense and street survival seminar. Contact: James Boorman, 6798 Ridgetop, N. Richland Hills, TX 76108. (817) 4886568

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Handgun Powders

(Continued from page 54)

Reloaders Guide were obtained in the Hercules laboratory under strictly controlled conditions. If you use their data, you must load only those exact combinations that are listed. Even then, different reloading techniques, plus industrial tolerances of each component, likely will cause your ammunition, or ammunition loaded by other competent laboratories, to yield slightly different ballistic data. Therefore, charge recommendations in the Hercules booklet (or in any other reloading data booklet) must never be exceeded. Smart shooters and hunters know that accuracy, not maximum powder, is their key to success.

Hercules offers the handloader a number of different powders. All are designed for principle use in specific firearms, but "can also be used for other applications" as spelled out in the Hercules booklet.

Powder	Principle Use	Can be Used in
Bullseye	Handgun Loads	12 Ga lite Target Loads
Red Dot	Certain Shot-shell Loads	Handgun Loads
Green Dot	Certain Shot-shell Loads	Handgun Loads
Unique	Certain Shot-shell Loads	Handgun Loads
Herco	Certain Shot-shell Loads	Heavy Handgun Loads
Hercules 2400	Magnum Hand-gun Loads	Some Rifle and Shotgun Loads

Hercules currently offers eight powders for use in reloading. These are listed in the order of "decreasing" burning rates. Each powder listed is "slower" than those preceding it and "faster" than those following it. For example, Red Dot burns more slowly than Bullseye, but faster than Green Dot.

Hercules warns all handloaders that many pistol and revolver loads require only small amounts of fast-burning powders; therefore: 1) guard against accidental double charges, and even multiple charges, whether loading with handtools or with progressive loading devices; 2) be sure that each bullet is positioned in the case so that the minimum overall length is not violated.

These powder formulations are double-base type to minimize charge weights and moisture absorption. Each powder grade is shaped into circular flakes or tubes by precision dies and cutters for best combustion efficiency and shot accuracy.

Each Hercules powder grade has a different burning speed, either by formulation or by size of the granules. So, do not blend or mix different powders, and use only the grade and quantity recommended in the loading tables.



The 2 3/4-inch S&W M29 belches with a big flame from a Remington 240-grain SP load, which proved to be blinding in darkness.

Hodgdon Powder—The Hodgdon Powder Company also offers a Basic Loading Data booklet, essentially developed for persons interested in using their line of powders. Like the other booklets, this one gives loading data for most popular rifle, handgun and shotshells, but we're just going to concern ourselves with the handgun end.

Hodgdon's HP38 is a fast pistol powder for most pistol handloading. It is especially recommended for mid-range .38 Special loads. Their Trap 100 is a spherical trap and light field load powder, but it's also excellent for target loads in centerline handguns. It offers mild recoil. A spherical powder made especially for the .30 Cal. M1 Carbine, Hercules H110 also does very well in .357 Magnum, .44 Special, .44 Magnum and .410 shotshells. Magnum primers are recommended for consistent ignition with this powder.

Hodgdon also publishes a fine hard cover reloading manual for handloaders. This publication goes into detail when it comes to powder, cases and everything else. It's a book worth having, especially if you use their powders.

Du Pont Powders—Du Pont also produces a Handloader's Guide listing a wide assortment of loads for their extensive powder line. Of a dozen powders listed, four may be used for shotshells and handguns, while another two can be used with these arms in addition to certain rifle cartridges. Du Pont stresses following safety rules as do the other powder manufacturers, especially where it comes to following loading data (do not switch components).

General Information—Reviewing Hornady's Handbook of Cartridge Reloading, we find many important bits of information. They point out that proper powder selection should be made with numerous criteria in mind. Usually, a powder which most nearly fills the case for the intended velocity gives the highest velocity at an optimum pressure. Gener-

(Continued on page 70)

Applegate-Fairbairn Fighting Knife

(Continued from page 34)



This is a special edition of the A-F knife put out by Al Mar Knives.



Col. Applegate today, with his three books, textbooks in the fields of scouting, riot control and close-quarters combat.

allow for sure orientation of the finely-sharpened blade edge, even in total darkness.

The crossguard, much shorter than that of the Fairbairn-Sykes, is curved toward the blade for easy thumb orientation, and to prevent the thumb from smashing into the guard upon delivery or a strong thrust. This curvature also prevents snagging on clothes when drawing the knife from its sheath, and in the eventuality of becoming involved in a knife-to-knife confrontation, the curved crossguard can be used to hook and keep an opponent's blade immobilized.

Balance is a critical factor in fighting knife design, one often overlooked in so-called "survival knives." Both Applegate and Fairbairn realized that a proper fighting knife should be slightly handle heavy, although the amount of weight desired might vary from person to person. Therefore, the handle design incorporates the use of inserted lead weights, which can be adjusted by removing the Lexan grips with an Allen wrench.

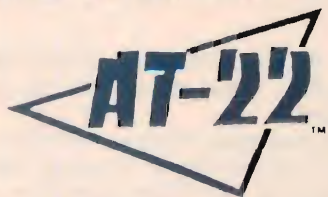
The sheath is made of heavy duty black leather, and features both a belt loop and belt clip for easy attachment to a variety of gear, either military or civilian. In addition, metal grommets have been used to reinforce the sheath stitching, to prevent the razor-sharp blade from cutting the threads as the knife is inserted and drawn. These grommets can also be used to stitch the sheath inside articles of clothing, or to hang the sheath upside down, possibly in a chest carry position with a string around the neck. The Velcro quick-break leather release strap retains the knife securely in any position and can be thumbed free.

Over the past decade, this author has reviewed and tested a variety of fighting knives, none of which come close to the Applegate-Fairbairn in matching its one intended purpose: fighting. It is the only fighting knife which features a design based upon actual military combat experience, and its inventors were experts of close quarter combat, not cutlery. Be FOREWARNED—THIS IS NOT A SURVIVAL KNIFE MADE TO SHARPEN TENT STAKES OR OPEN TIN CANS! As Sid Latham of *American Blade* so succinctly puts it:

"It took more than 40 years to gather the refinements, and to make a steel which was worthy of the knife to make what could be the ideal fighting knife. A knife that would slit a throat with ease, stab, slice, or kill quickly and silently."

The Al Mar version of the A-F knife is available for \$135 from the Cutlery Shoppe, Dept. ASG, 404 S. 8th St., Boise, ID 83702; (800) 231-1272. A custom made version is available for \$245 exclusively from Paladin Press, Dept. ASG, P.O. Box 1307, Boulder, CO 80306; (303) 443-7250.

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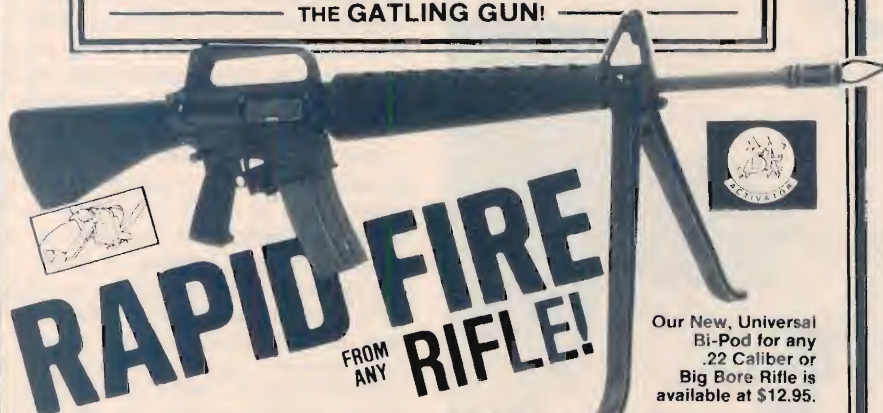
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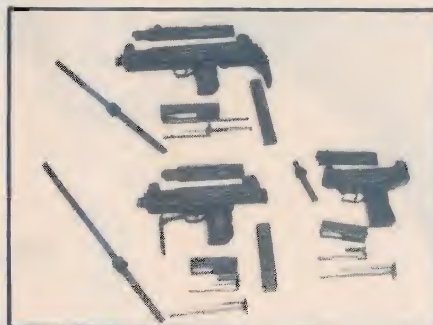
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The Incomparable UZI

(Continued from page 27)



The standard UZI carbine as well as sub-machine gun can be used with quick access, concealable rigs such as the top quality, all leather DeSantis holster shown here.



Simplicity of design and ease in field stripping are inherent in all three semiauto models, as with the full-auto UZIs.



Action Arms offers an assortment of accessories. Shown here is carbine case, magazine pouches, wooden stock, scope mount, magazine clip, magazine loader and 25- and 32-round magazines.

Mini UZI carbine.

Altered to fire from a closed bolt, the standard semiauto carbine is now offered in .45 ACP as well as 9mm Parabellum. Weighing in at just over 8 pounds, the carbine diminishes recoil of even the heaviest loads.

Both the pistol and Mini feature the same simplicity of design, ruggedness and reliability of the standard UZI. With few exceptions all features designed into the original have been incorporated into these new models. ●

Look Skyward, Neighbor!

(Continued from page 58)



This is all that remained of a church after a tornado roared through the St. Louis area.

weather of that day.

Watching the sky has a long, historic past, from the ancient mariner to the farmer ready to plant or harvest.

Today the airlines watch the sky more than any other particular group. A world weather pattern is always at fingertip reach, charting stateside or overseas flights.

Tornado Belt—Tornado clouds, down through the centuries, have spread terror throughout the land. Midland America, often referred to as the tornado belt, has had its share of them. Science has not yet found a way to harness this type of funnel cloud, but we do have a network of radar warning signals. It is good to know as well that nine times out of ten, clouds of tornado violence come from the southwest, travel into the northeast.

In grandfather's day, there was no warning, no sirens, no TV or radio alerts. So the sky was watched more intently than it is today. The wind, or the absence of even a breeze, the humidity, all had a part in spewing tornadoes and grandfather knew the signs. Today we depend on the radio and TV.

"Evening red, morning gray, send the traveler on his way," is one of the most ancient weather signs still used by many. And this one also is still popular: "Red sun the morning, sailor take warning!" In rural areas, the action of animals often is a barometer of violent weather approaching.

Mark Twain has long been credited with the quotation: "Everybody talks about the weather but nobody does anything about it." But the truth is, Twain never said it. The man who did was Charles Dudley Warner, as a pungent comment on his own New England weather.

It might not be a bad habit to glance skyward occasionally, and be your own weather prophet. The subject will never wane in popularity. ●

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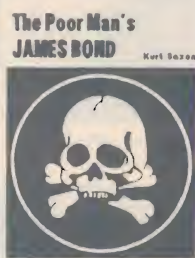
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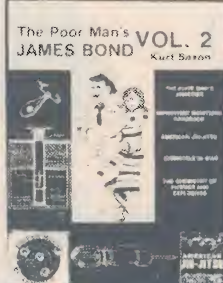
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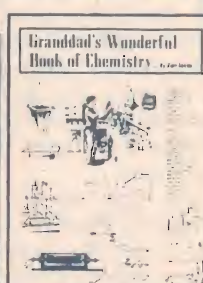
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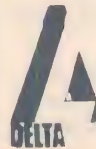


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Staff Report

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The sight has a compact aircraft-type "Head-Up Display" mounted on the front end of the rifle, permitting the shooter to sight and fire with both eyes open and with an unrestricted field of view.

There are two methods of zeroing. With the first, the user fires several rounds, then adjusts vertically or horizontally for point of impact by turning click-adjustable knobs on the sight. The second method, known as the "indirect method," involves adjusting the red dot in the sight so it is placed on top of the front rifle sight. This method requires that the rifle's factory sights are already zeroed.

Once zeroed, aiming is performed by placing the sharp, luminous red dot, projected on the gunsight's optical window, on the target. A hit is assured whenever the red dot overlays the target.

The luminous red dot, activated by turning a lever on the side of the sight, cannot be detected by the target and is visible only to the gunner, even at night.



The view through the sight on an AR-15. The luminous red dot is not visible here.



The luminous red dot is activated by turning the lever on the side of the sight.

The Falcon is designed to allow use of the regular M16/AR-15 sights as a backup. Included are mounts for the AR-15/M16 rifles and a universal mount for use with Weaver bases.

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limited one-year warranty. It is available for \$299.95 plus \$5.95 shipping and handling from: A Little To The Right, Dept. ASG, P.O. Box 603, Reisterstown, MD 21136; toll free (800) 626-5166. Maryland residents add 5 percent sales tax. ●

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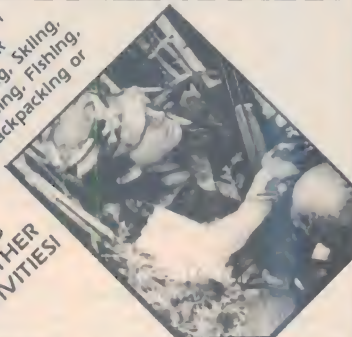
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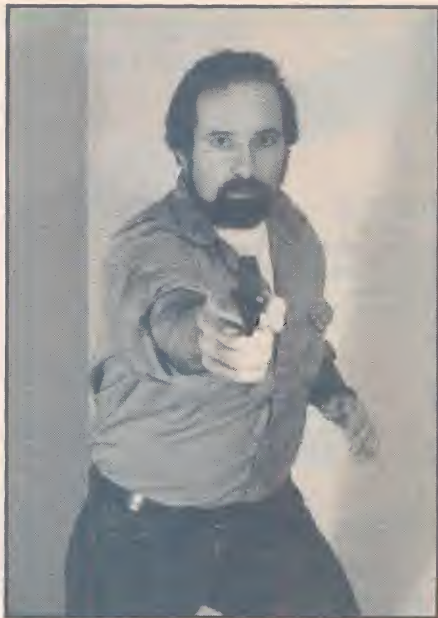
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Don't Miss It!

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Point Firing To Save Your Life

(Continued from page 15)



In combat, or in a life-or-death attack situation, you will not naturally take up a position and brace yourself while focusing on the front sight.

in any consideration of combat firing technique or handgun use. When we read about the superiority of the so-called new technique of the pistol it is imperative that we remember the fact that this "superiority" has been established *exclusively* within the context of competitive match shooting.

While some people claim that the pressure of sport competition will effectively duplicate the pressure of a combative encounter, that hypothesis seems incorrect to me. Just as competition in the martial arts (i.e., karate, kung fu, and judo) more often than not fails miserably to even half-prepare the participant for battle, so the same is true of the armed fighting systems.

Yes—there is stress and tension and pressure when one competes. No—it is not the same as the energy-draining hell of battle, or emergency self-defense fighting. For this the author speaks from the standpoint of 30+ years experience, training, and research in the combat martial arts. This was understood readily by the pioneers of real-world close-combat shooting (Applegate, Fairbairn, McGivern, Fitzgerald, Jordan, etc.) but was discarded as irrelevant by the founding fathers of the cult of modern competitive shooting.

The author is indebted to John McSweeney of Illinois (a prominent fellow instructor of both modern armed and unarmed martial arts) for the name of the phenomenon that occurs during close-quarters battle, and that makes the technique of aimed, sighted firing, inappropriate. It is the "Tachy-Psyche" effect, or the occurrence of pronounced *tunnel vision* when one confronts an aggressor.

Simply stated this means that one's

focus, *naturally*, WILL BE ON THE ATTACKER. One will not regard a shooting adversary as one might regard a paper target on the range. One will focus—rivet!—one's eyes on that target because that is the natural, instinctive thing to do. One will point one's weapon in a direct shoving action *at* one's target, maintaining a convulsive grip, and then one will pull (not squeeze or press) the trigger! This much realized, it seems almost insane to expect a shooting style that goes deliberately against what is natural for the human animal to do to be effective as combat training.

Natural Method—The suitable method for firing one's handgun in a high-stress, suddenly occurring situation, is the one that is the most *natural*. And no system is so functionally natural as the proven point shooting system. Remember—we are speaking of proven for actual, real world self-defense and survival encounters with armed assailants; we are *not* claiming or suggesting that the point firing method can ever measure up to aimed, use-of-the-sights firing at distance targets during competitive, freestyle sport shooting matches.

Are the sights of a handgun ever appropriately used in combat?

Absolutely. As Fitzgerald decades ago pointed out, and as Applegate, Fairbairn, etc. have all readily concurred, the weapon's sights are properly utilized when one engages an adversary at a distance, when one has time for aimed fire, and when there is sufficient light to see the sights. However, this constitutes only a *fraction* of the types of predicaments one normally encounters during combat. Ninety-five percent or more of the situations that occur entail close ranges, dim lights, and the need for high-speed reaction.

Perhaps the big reason for the extreme lack of popularity of the point firing system is that it is without sporting or competitive application. People, especially in the West, like to compete. Note, taking an example from the weaponless martial arts, how tremendously popular the sport of judo has become in Europe, Canada, and America, as opposed to its predecessor, *ju-jitsu* (the non-sporting, combat art). Competitive karate is flourishing in America, but the combat karate systems enjoy only a specialized, elitist following.

Certainly people should be free to pursue their interests as they wish. However, some very serious mistakes can be made—some dangerous mistakes—when an interest in sport leads one to expect that one is mastering life-saving skills by pursuing one's interest. It is not in the nature of sport, *per se*, to provide battle skills or proper mental preparation for combative

encounter. This is as true of armed as it is of unarmed martial arts.

The widespread acceptance of what is called the new technique of the pistol has led to a widespread acceptance of a "right" handgun for combat shooting. A package-deal, in other words. Once one accepts the "new technique" as gospel, one will accept the particular weapon that is best-suited to the successful utilization of that technique: the heavy-duty, big-bore semiautomatic pistol, and *only* the heavy-duty semiautomatic pistol! The Colt .45.

The Colt .45 automatic is, in this writer's opinion, *still* the finest self-defense and battle pistol on earth. It is the best. But it is not the only one that will serve; nor is it necessarily *always* the best choice for everyone under all conditions.

Many factors necessarily go into the selection of the right handgun in a given instance. Simple personal preference, based upon esthetic appeal, has an awful lot to do with it. There are men and women who just happen to "like" a certain weapon, period. That fondness encourages practice, regular handling, constant carry, familiarization, etc.—all very important when it comes down to use. And there are people for whom the proven Colt is not well



Revolvers and automatics are perfectly adaptable to point firing technique.

suited at all. Being a *sport*, I.P.S.C. can legitimately make the use of specified, carefully limited "tools" or "implements" mandatory. But that is not combat; and for combat firing the point shooting system will work equally well with any handgun type! It does not favor the automatic, and it offers certain advantages in some cases for the lesser calibers (like the .22, the 9mm, the .380 automatic, the .38 Special, etc.). Frown as they may upon these "inferior" calibers, weapons that utilize them have been responsible for saving an awful lot of lives, and the dyed-in-the-wool .45 aficionados cannot dispute that fact.

The lighter calibers may easily be fired one-handed using the point-firing method.

Most men can use one-hand firing technique even with the Colt auto, if they practice, but one must remember: *two-handed point shooting is always a viable option*. So long as one uses point firing, and does not attempt to employ the sights, the two-handed point firing method is every bit as fast as the one-hand method! So recoil is easily controlled with point shooting.

Proponents of the aimed shooting position we today call the Weaver stance argue that this stance permits the use of a big bore handgun with the accuracy of a rifle. This is true, but it is also beside the point.

There may (rarely) be times when one's concealed self-defense handgun may be required to perform like a rifle, but who's kidding whom? That is *not* what handguns were designed and intended for, and so long as rifles (and carbines) are available, let's let *them* do their own job! The handgun is a close-quarters battle weapon. It is a tool of *close-range* self defense! Distance shots are the exception, not the rule. One who trains for defensive purposes should train primarily to deal with what is likely to occur.

As an instructor of unarmed and armed martial arts for self defense I want to state, for the record, that I believe the so-called "new technique" does offer a contribution to combat shooting that we ought not to underestimate or overlook. The technique of aimed fire vis a vis the Weaver stance is a great supplementary method to the core system of point firing. It serves well when one must engage a close-in target with a distance target, rapidly. The shift to the Weaver use-of-the-sights stance from a point firing isosceles stance is lightning fast; and it is easier to employ the handgun's sights from a Weaver two-hand stance than it is from an isosceles two-hand stance. I think that is an important and valuable thing to learn, and I feel its addition to the basic point shooting method increases that method's comprehensive versatility.

Wonderful as the sporting combat matches are for those who enjoy participating in them, they fall short of preparing the participant for all-out close combat and self defense under realistic conditions. This is not said to be critical of the method's developers or adherents; it simply seems the inescapable conclusion of my research—and the findings of others more qualified and experienced than myself, too.

For situations where it's kill or be killed, when a fraction of a second's notice is all the warning you get before some lunatic tries to shoot, stab, or club you to death, point shooting is the method to rely upon. It is a proven quantity. In fact, for close-quarters battle, it is *the* proven quantity with the handgun. ●

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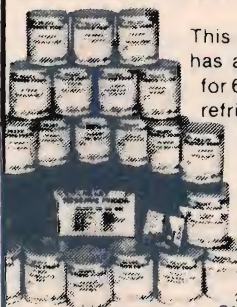


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Ballistic Vests

(Continued from page 37)

Ballistic Vest Protection Levels

Threat	Level I	Level I +	Level II-A	Level II	Level III
.22 LR (Handgun)	Yes	Yes	Yes	Yes	Yes
.25 Auto	Yes	Yes	Yes	Yes	Yes
.32 Auto	Yes	Yes	Yes	Yes	Yes
.380 Auto	Yes	Yes	Yes	Yes	Yes
.38 Special (lead)	Yes	Yes	Yes	Yes	Yes
.44 Special	Yes	Yes	Yes	Yes	Yes
12 Gauge (shot)	Yes	Yes	Yes	Yes	Yes
.22 LR (Rifle)	No	Yes	Yes	Yes	Yes
.25 Auto KTW	No	Yes	Yes	Yes	Yes
.380 Auto KTW	No	Yes	Yes	Yes	Yes
.38 Special	No	Yes	Yes	Yes	Yes
.38 Special + P	No	Yes	Yes	Yes	Yes
.45 Auto	No	Yes	Yes	Yes	Yes
.45 Auto KTW	No	Yes	Yes	Yes	Yes
9mm Luger (JSP)	No	Yes	Yes	Yes	Yes
9mm Luger (FMJ)-pistol	No	Yes	Yes	Yes	Yes
12 Gauge (Buckshot)	No	Yes	Yes	Yes	Yes
9mm Luger (SuperVel)	No	No	Yes	Yes	Yes
.38 Super	No	No	Yes	Yes	Yes
.357 Mag. (JSP)	No	No	No	Yes	Yes
.44 Magnum (lead)	No	No	No	Yes	Yes
.44 Magnum (JSP)	No	No	No	Yes	Yes
9mm Luger (FMJ)-carbine	No	No	No	No	Yes
.38 Special KTW	No	No	No	No	Yes
9mm Luger KTW	No	No	No	No	Yes
.357 Magnum KTW	No	No	No	No	Yes
.44 Magnum KTW	No	No	No	No	Yes
.30 (Carbine)	No	No	No	No	Yes
12 Gauge (Slug)	No	No	No	No	Yes
.308 Win. FMJ	No	No	No	No	Yes
.30-06 (Soft point)	No	No	No	No	Yes

(Important: This table gives only an approximate idea of the protection offered by any given vest. New types of ammunition, the condition of the vest, and type of weapon being used can all greatly change the actual penetration of any given bullet in a vest. Be sure to check with the manufacturer of your vest for an accurate idea of what type of projectiles a vest will actually protect against.)

too bulky for any sort of concealment.

Newer, lightweight materials may change this in the near future. Currently a number of plastics, carbon fibers, metal crystals, and fiberglass materials are being developed which are actually stronger than steel plates. Used in conjunction with Kevlar, these "composite" materials may make rifle-resistant armor that is also lightweight. In addition to vests and helmets, it might be possible to encase a fighter in true "Star Wars" style to give him protection from a wide range of small arms fire.

In the meantime, what about the lack of coverage given by a vest? Critics of ballistic vests point out that all they protect is a user's torso. This leaves most of the body exposed. In fact, a ballistic vest greatly enhances a person's survival chances in a gunfight.

Most shooters tend to aim for center-of-mass during combat. Even given the "strays" that are fired in a gunfight without aiming, over half of all wounds occur to the chest/stomach/back areas of the body with other shots striking areas other than the torso. Of the remaining, 40 percent occur to the head and neck with 3 percent to the arms and only 1 percent to the legs. While a vest hardly turns a wearer into Superman, it does increase the odds in his favor by the proverbial long shot. It's as

if his opponent's weapon were loaded so that every other shot fired at him is a blank! With many gunfights ending with only a few shots, the wearer of a vest stands a good chance of never even being stretched during a shoot out that continues until one or the other of the fighters is dead.

Which would you want? Better than 50/50 odds that you wouldn't be harmed by a shot that stikes you or 100 percent odds that you'll be injured with a shot that connects? It doesn't take a genius to see that a ballistic vest will greatly improve your chances of survival.

When you start looking at vests, you'll discover that they are "rated" according to what types of bullets they will stop. Fortunately the ratings from one company to another are fairly consistent since the U.S. government set up guidelines (in the NILECJ/Aerospace Corp., "Body Armor Program Executive Summary of 1977") for vest testing which are still currently used by manufacturers. These ratings for armor allow a buyer to know, more or less, what the vest can stop in the way of bullets.

Most weaves of Kevlar demand that at least 7 or 8 layers of material be used to achieve Level I protection, 9 for Level I+, 14 for Level IIA, and 16 layers for Level II. This will vary from company to company since one-piece inserts made of continuous



The "Building Entry Team Armor" (B.E.T.A.) is designed for a wide range of military and police needs (Silent Partner).

cloth are stronger than vests made of cut pieces. In general, the ratings of vests are rather conservative to allow some "fudge factor" in case the vest had deteriorated slightly, is water soaked, or a bullet strikes near the edge of the fabric.

The table here will give you some idea as to what vests will stop according to their ratings.

Cop Killer Bullets—And what about the other armor-piercing, "cop killer" bullets?

Such rounds amount to more or less of a "tempest in a teapot" which has been created by some members of the press and congressmen wanting cheap publicity. These bullets were actually developed FOR use by the police and have proven to be less than ideal for nearly all combat conditions that one could imagine. Although these bullets give a lot of penetration, they don't do much damage; an opponent shot with a "cop killer" bullet is apt to turn around and drill the person shooting such bullets. If you HAD to get shot and had a chance to choose a bullet to be shot with, the armor-piercing bullet would be the one to pick!

Ballistic vests are available in a wide variety of styles and sizes with different models for men and women; with a little effort and a few careful measurements, it is possible to get a tailored fit in a commercial vest. This is important. A concealed vest will help you avoid having an opponent take only head shots; concealed vests also make it possible to wear armor in public without

attracting undue attention.

Currently, five companies have got the lion's share of the vest market: Second Chance (best known in the law-enforcement community), American Body Armor, Point Blank Body Armor, Silent Partner, and Vector. Second Chance and American Body Armor don't sell vests to civilians. The theory being that civilians don't need armor or that the vests will fall into criminal hands if unrestricted sales are made. Point Blank and Vector cater mostly to the law enforcement and military communities; only Silent Partner is currently realizing the needs of the "average guy" for modern vests.

One of the less expensive armor systems is available from Silent Partner. This company has created a "modular" system of interchangeable armor pads which can be exchanged in vest carriers or even in several different carriers. This allows the buyer to purchase a vest in "installments" by buying a modular carrier and then adding ballistic panels to it one at a time.

If you decide to buy a vest, be sure you get one that really suits your needs and will be comfortable to wear. The best vest is the one you have on when you need it. A lightweight, minimum protection vest that is worn is better than a heavy super-duty one that remains in a closet. Likewise, the vest you can afford is better than the best vest that's too expensive to ever buy. A little protection is better than none at all.

When you wear a vest, remember that it doesn't turn you into a bullet-proof superman. Don't allow people to know that you're wearing a vest; otherwise, your next assailant may make a head shot. ●

List of Manufacturers Of Ballistic Vests

Silent Partner, Inc. Dept. ASG
612-18 Third St.
Gretna, LA 70053;
Toll-free number (800) 321-5741

Point Blank, Dept. ASG
55 Saint Mary's Place
Freeport, NY 11520; (516) 223-4044

Second Chance Body Armor, Inc.,
Dept. ASG
P.O. Box 578
Central Lake, MI 49622; (616) 544-5721

American Body Armor & Equipment, Inc.
Dept. ASG,
135 N. New York Ave.
Halesite, NY 11743; (516) 271-0019

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Sturgis, MI 49091; (616) 651-3278

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Handgun Powders

(Continued from page 60)

ally, in any given cartridge, the faster burning powders give best results with lighter bullets and the slower burning powders achieve the most desirable results with heavier bullets. Of course, the ideal situation is to find a powder that works well throughout the range of bullets with a given cartridge. Hornady's manual lists only powders that gave optimum results with the guns and components tested. For any given cartridge, some powders have burning rates that are too fast and some have burning rates that are too slow.

Powder with burning rates that are excessively fast for an intended cartridge give velocities that are too erratic and or too slow. Such powders do not take up enough space in the case, according to Hornady, thereby if the powder has too much opportunity to move around in the case, ignition can be non-uniform, resulting in erratic velocities and poor accuracy.

If a powder with an extremely slow burning rate is used in a case with insufficient capacity to utilize the powder's full potential, poor velocity, hangfires or extreme muzzle flash can occur. Most slow burning powders must work at near maximum pressures to prevent hangfires and muzzle flash.

Compressed powder charges can be equally inefficient. The primer flame may not penetrate the entire powder charge, with lower pressure and slower velocities the result. Should the primer flame ignite the entire powder charge properly, excess pressure is possible. At any rate, heavily compressed powder charges are not recommended.

Many of the photographs with this article illustrate what we are speaking about relative to muzzle flash or flame fronts. Excessive muzzle flash usually indicates you could have selected a better powder for that particular cartridge/handgun combination, but it also means you could be in trouble if you use that load for defensive purposes. In most instances, the only persons having to fire their guns at night would be law enforcement personnel, and our testing reveals that excessive muzzle flash can blind the shooter for a second or two after ignition, and this can be dangerous.

We could present a lot more data on this very important issue, but space limitations say call it to a halt. We must add, however, that if you are already into handloading, or plan to get started, you should have no less than three handloading manuals (Speer, Hodgdon, Hornady, Nosler, Lyman, etc.) on your loading bench. This is because loading data varies so much, especially since there are so many different bullets available for so many different cartridges. With a few manuals, you can cross reference and come up with safe loads the first time out. ●

MAIL CALL

(Continued from page 19)

but normal. Suddenly, our tree and brush screen along the creek was washed away and we had to abandon our home. We had time only to grab some under clothes and a backpack to put them into. I did grab three pistols as I left the house. We made it out, thanks to a neighbor who came right up to the door with a weasel vehicle. He stuck his neck out to rescue us and he was up to his maximum depth and was almost floating. The house was literally knocked down and ground up into match sticks and then buried. I added up the estimated cost of what was in the house and the estimate is \$188,000. This is more than I will be able to replace in my remaining lifetime. I'm 57. Now as for the advice I'd like to give your readers, first, do not put all your eggs in one basket. Somehow, somewhere, find or make a secure cache for as much as you can store, away from your primary retreat. Second, check and recheck your proposed retreat site for hazards that Mother Nature could throw at you. I thought that I had checked, but obviously not enough. People who lived in the area since 1957 had not seen a flood such as this. A creek that was normally about 100 feet across turned into a raging torrent over 1/2-mile wide at our home and we were right in the middle of it! Don't underestimate Mother Nature or man either! I will continue to be a survivalist as it is an important part of me. I just have to start from scratch again!

Russell L. Campbell
Wasilla, Alaska

Our hearts go out to you in your loss, and we commend you for your strength and courage in starting over again. We wish you the best.

Chief Joseph

I may not understand why a story about the 1877 Nez Perce War got into ASG (November 1986) but it contains a very basic error which should be corrected. Although the popular literature about Chief Joseph makes him a great chief of the Nez Perce, he was never a leading chief of the tribe and was certainly not the chief who led the tribe on its epic retreat through Montana. Joseph was sometimes called a "peace chief" and he went along on the retreat rather reluctantly, so we are told. The chiefs who led the contingent on the 1877 retreat included Whitebird, Looking Glass, Ollokut, and Too-Hool. Looking Glass was the apparent leader until after the Battle of the Big Hole where he seems to have lost his confidence. Much of the direction of the flight after that was

apparently handled by a trader named Poker Joe who was picked up in the Bitterroot Valley. Poker Joe knew the whites better and he knew the trails to Canada. On the famous retreat, Joseph was in charge of the women and children and, consequently, the horse herds. As an example, Joseph led the way through the Bitterroot Mountains where the young women, whose job it was, cleared the trail for the horses to follow. I'd guess that Chief Joseph became the chief of legend because he might have had a better command of the English language and because he did project a somewhat regal appearance. Incidentally, the Army Captain in Missoula was named Rawn (not Rawins) and the Nez Perce used Winchester 1873s and 1873 trap-door Springfield, among whatever else they may have had, NOT "Model 77 Winchesters."

R.G. Schipf
Missoula, Montana

Ragnar Benson responds: *Mr. Schipf's letter raises some interesting philosophical matters. The Soviets study the Nez Perce Indian War because of its lessons in supply and strategy for the small, self-contained fighting unit. If they think there are survival lessons to be learned from the war, perhaps the experience of Chief Joseph does have some lessons for modern survivors. The question as to who was really in charge of the tribe during the retreat will probably never be answered to everyone's satisfaction. In contemporary accounts, Ad Chapman claims to have fired at Chief Joseph advancing under a white flag at White Bird Canyon. Joseph definitely organized the camp when it made its escape at the Battle of the Clearwater. Joseph did not lead or participate in that fight. At the Bear Paws, General Howard accepted Joseph's surrender as leader of the Nez Perce. When Joseph said let's quit, everybody else said okay, let's quit. Arguments about tribal councils, ascension by attrition and language skills notwithstanding, it sounds like Howard and Joseph and the tribe thought Joseph was in charge. The gaffe regarding the rifles used is inexcusable, especially since I bought the display Indian 66 for the Appaloosa Museum that is a duplicate of the Winchester 66 Joseph surrendered to Howard at the Bear Paw Mountains. A study of the weapons the Nez Perce used would be interesting in and of itself, especially of those they captured and used belonging to Mr. Croaesdaile, an ex-British officer who had hunted all around the world.*

Ragnar Benson •

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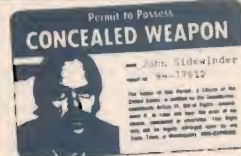
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(Continued from page 46)

Giardiasis—Understanding Giardiasis will also help to prevent it. The tiny animal causing all the trouble is *Giardia lamblia*. Outside the host, *G. lamblia* is a hard, durable cyst. Safety inside a mammal's stomach, it becomes a trophozoite. There it feeds and multiplies. It's so small that 8,000 can fit on the head of a pin.

A beaver will drink *Giardia*-infested water come spring, and the cycle continues. As beavers swim from pond to lake, they spread *Giardiasis*. Hence the nickname beaver fever.

Other animals are equally to blame—cattle, coyotes, deer, horses, and dogs. They drink infested water, and defecate in or near water.

Man is also at fault. More people travel the back country, with careless toilet habits. *G. lamblia* takes the fecal-oral route, too. At daycare Rachel forgets to wash after using the toilet. Then she trades snacks with Susie. Life goes on.

With all these means of travel, Giardia is "The most commonly encountered intestinal parasite in the U.S. and Great Britain," according to *Audubon* magazine. But we can't eradicate Giardia from every stream and carrier. There are 16 million Americans alone who have Giardiasis. Many are probably healthy carriers. They can produce cysts for months, even years.

If you get Giardiasis from a friendly carrier, you'll feel the effects in six to 20 days. They include cramps, diarrhea alternating with constipation, and fever. "Everything you eat promptly comes up or out," said one victim. In seven days his weight plummeted from 165 pounds to 115.

The most effective treatment is quinine-based Atabrine. After taking it, patient David del Junco got better. But, "I was still skinny and tired from a month's infirmity," he wrote in *Mother Earth News*.

When judging a stream's purity, remember what Colin Fletcher wrote in *Complete Walker III*, "If in doubt, doubt." Even the most remote, most innocent looking spring is probably home to *G. lamblia*.

After deciding to doubt, filter your water. For bacteria and Giardia, the best product is the Katadyn Pocket Filter. At a suggested \$175 it's not cheap, but should last five years or more. The Pocket Filter can trap particles as small as .2 micron. Giardia measures seven microns. By contrast, our unaided eyes can only see objects

The Katadyn Pocket Filter is available for \$150 postpaid from Provisions Unlimited, P.O. Box 456, Dept. 400, Oakland, ME 04963; (207) 465-3212.

Boiling is an alternative to filtering. But it's inconvenient, time consuming, and fuel wasting. On the plus side, a few minutes of boiling kills *G. lamblia*, other protozoa, and bacteria.

Another method is iodine tablets. They're sold under several brand names—Potable Aqua, Coughlan's, and Globaline. The tablets take 30 minutes to dissolve in water. The Environmental Protection Agency rates them 85 percent effective.

Back home, you can install a household filter. Provisions Unlimited sells Katadyn home-size filters, as well as trail models (for more information see "Safe Drinking Water" *American Survival Guide* June, 1986).

A household system makes sense, when you consider that "Over 30 Giardiasis epidemics attributed to public water have been reported since 1965 (in the U.S.)." *Backpacker* magazine went on, "And that's conservative, according to Atlanta's Centers for Disease Control, since many municipalities don't bother to report water problems." So ask your local water utility how *your* water is treated.

Looking Ahead—Can we win the parasite war? Maybe. Although science is making progress, so is the enemy. *G. lamblia* had a head start; it was on earth long before man. Now it lives in every climate, from the equator to the poles.

Lyme disease is catching up. In July, 1986 Dr. Dammin knew that both white-footed mice and whitetail deer were in New Hampshire. In a lecture he predicted, "If we don't see Lyme disease in New Hampshire in 1986, we will certainly see it there in the summer of 1987." Later Dr. Dammin learned that three cases were reported in June. To discover if both animals are in your neck of the woods, contact the local fish and wildlife department.

Keep the parasite war cold. Practice personal hygiene, disinfect your water, and check for ticks.

And remember, don't stop for hitchhiking parasites. ●

PEOPLE aren't aware that children are highly susceptible," said Dr. Dammin. 5 to 13 year olds are the most likely victims. Before age 5, children stay close to home. Teenagers prefer town to the woods. Children also have trouble spotting ticks.

Worse, children are much less likely to have the distinctive rash. One study found that 87 percent of the youngsters had no red rash. So let the summer flu, and where your kids play, be a warning.

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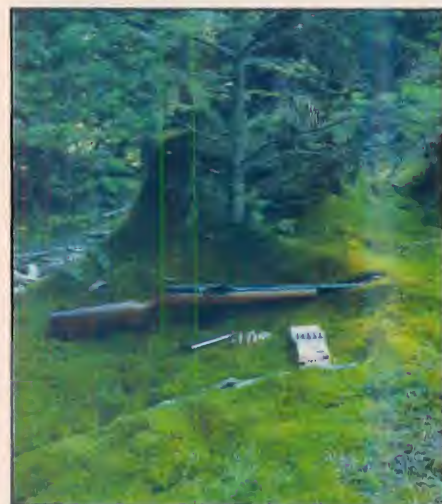
Translated, that means you, the gun buyer, get a better weapon for less money. The Model .45 sells for \$260 (less at discount stores), and in today's market that's a bargain.

Pushing in on the charging handle will lock the bolt open at max rearward travel, although this feature didn't work reliably on our test weapon. The bolt stays open after the last shot.

The receiver's top is sand blasted to reduce glare, and a deep blueing job rounds out visual appeal. For simplicity, the magazine well and trigger housing are pressure-formed of a Valox-like plastic



With a good braced position, the author found that his compact but potent Marlin .45 was an accurate brush gun.



The Model .45 performs especially well with CCI Blazer throwaway ammo.

resin which is virtually indestructible, allowing further savings.

A serrated ramp front sight with brass bead is protected from rough usage by a wide-scan hood. The rear sliding notch sight folds down for protection, and is windage adjustable by drifting the sight in its dovetail. These sights are adequate for brush gunning, but target accuracy suffers with the oversized front bead.

We found that an Aimpoint 200 electronic sight was the easiest way to solve accuracy problems; Aimpoint's Marlin mount fit right on our test carbine, and stayed in place during testing.

Marlin supplies a beefy stainless steel magazine with the Model .45. The rounded followers and nice finish work ensure reliable cartridge feeding.

Several safeties help protect Marlin from liability hassles; only a total idiot could get around all these devices. The primary safety is Garand-like, located in the front of the trigger guard and easily actuated by the trigger finger. The bolt stays open after the last shot, allowing a visual check of the

Marlin Model .45 Carbine: Tech Specs

Caliber	.45 ACP
Operation	Blowback
Type of Fire	Semiautomatic
Lengths:	
Barrel	16.5 inches
Overall	35 1/2 inches
Weights:	
Empty, with magazine	6 lbs., 12 oz.
With 8 rounds 230-gr FMJ mil. ammo	7 lbs. 1.8 oz.
With 8 rounds 200-gr Blazer ammo	7 lbs. 0.4 oz.
Magazine Capacity	7 rounds
Sights:	
Front	Hooded ramp/post
Rear	U-shaped notch, adjustable
Price, Suggested Retail	\$259.95
Warranty	Two years
Manufacturer	Marlin Firearms Co. Dept. ASG 100 Kenna Drive North Haven, CT 06473

chamber for safe condition. The magazine disconnect safety prevents firing without a magazine fully inserted, although this type of safety is often regarded as a nuisance by seasoned shooters. Last, a chambered round indicator on the bolt's right side shows when the weapon is ready for duty. It can be felt in the dark, which is useful for night operations.

At a half-inch short of a yard overall length, the Marlin .45 looks sort of like a kid's .22 rifle. That's until you see the huge hole in the business end, however.

Ultra-reliable functioning was the norm with our test Model .45, mainly because of the innovative spring-loaded feed ramp. It's part of the receiver, and is sited so that bullets have no choice but to slide up the ramp and into the chamber. During tests we fed the Model .45 every bullet shape available, including low-velocity flat-nosed target ammo, and it never failed to function impeccably.

The ultimate test was mixing a fired case with live rounds in the magazine, to see if the Marlin would feed the empty case dur-

ing a rapid-fire shot string. It did, as many times as we asked it to. Try that with other high-priced .45 hoseguns.

Disassembly starts with removing two captive screws in the stock, releasing the stock from the barreled action. Pushing out two pins in the receiver releases the trigger group, after which the bolt is lifted up and removed and the cocking handle comes free. It takes only seconds after a few trial runs.

No further disassembly is recommended by Marlin, but for a worst-case scenario I broke the trigger group down into basic parts, then put 'em together without hassle. This means that emergency field repairs are possible if, for example, dirt jams up the innermost working parts.

Testing—During firing, we noted that the Model .45 recoils more than it looks like it should, although it's still docile.

(Continued on page 78)



Even close up Marlin's two pistol-caliber carbines look alike. The Model .45 is at left, Model 9 is at right.

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		1	40/12 Firecrackers - Br. 480 pcs., Case 15,360 pcs.	5.00	100.00					Missiles and Helicopters			
		2	80/16 Firecrackers - Br. 1,280 pcs., Case 15,360 pcs.	11.00	100.00				36	Buzz Bombs Spin Up	8.00	80.00	
		3	40/50 Firecrackers - Br. 2,000 pcs., Case 16,000 pcs.	16.00	105.00				37	Two-Stage Silver Jet Spin Up - \$1.75 ea.	15.00	150.00	
		4	10/200 Black Cat - Br. 2,000 pcs., Case 16,000 pcs.	18.00	120.00				38	Two-Stage Space Jets (12 to pkg.)	3.00	30.00	
		5	40/12 Black Cat - Br. 480 pcs., Case 15,360 pcs.	5.75	110.00				39	Reconnaissance Planes (2 pkgs. of 6 to pkg. - \$3.95)	3.95	39.00	
		6	Lady Crackers - Br. 1,600 pcs.	10.00					40	Plane Flying at Night (12 to pkg.)	6.50	65.00	
		7	Jumping Jacks - Br. 576 pcs., Case 11,520 pcs.	10.00	180.00				41	Flying Disc or Satellite	1.95	20.00	
			Underwater Firecrackers	BOX	CASE				42	Large Missile - \$1.00 each	10.00		
		8	M-60 - works in water, Box 72 pcs., Case 1,440 pcs.	12.00	175.00				43	Giant Missile - \$1.50 each	15.00		
			Sky Rockets	DOZ.	GROSS					Smoke and Novelties	DOZ.	GROSS	
		9	Pop Bottle Rockets, report - 144-\$4.00, 3,600-\$75.00		4.00				44	Two Colored Smoke	1.50	15.00	
		10	Black Cat Bottle Rockets - 144-\$5.00, 3,600-\$90.00		5.00				45	Cherry Smoke Balls (assorted colors)	1.50	15.00	
		11	Whistling Moon Travelers - 144-\$7.95, 2,880-\$120.00		7.95				46	Small Tanks	5.50	60.00	
		12	Fierce-Tiger Soaring Rocket	6.00	60.00				47	Pull Fireworks - Burglar Alarm	2.50	25.00	
		13	Clustering Bee Rocket	6.00	60.00				48	Cigarette Loads	2.50	25.00	
		14	Wild Geese Rocket	6.00	60.00				49	Auto Foolers (whistle, smoke and bang)	5.00	50.00	
		15	Butterfly Rocket	6.00	60.00						PKG.	DZ PKG	
		16	Parachute Rocket with Flare	6.00	60.00				50	Red Rat Chasers (144 to pkg.)	7.00	70.00	
		17	4 oz Skyrocket w/Stars or Report	8.00	80.00				51	Party Snappers (50 to pkg.)	.75	7.50	
		18	6 oz Skyrocket w/Stars or Report	9.00	90.00				52	Aircraft Carriers (2 to pkg.)	2.50	25.00	
		19	8 oz Skyrocket w/Stars or Report	10.00	100.00				53	Champagne Party Poppers (pkg. of 12)	1.80	18.00	
			Night Display Shells	EACH	DOZ.				54	Whistling Jacks (24 pcs. to pkg.)	1.00	10.00	
		20	Saturn Missile Battery - 12 shot	1.50	15.00				55	Rocket Guns (pkg. of 12)	6.00	60.00	
		21	Saturn Missile Battery - 25 shot	2.70	30.00				56	Ground Bloom Flower (pkg. of 6)	.90	10.80	
		22	#100 Floral Shell	7.95	70.00					Sparklers and Fountains	BOX	DZ BX.	
		23	#200 Floral Shell	9.95	89.95				57	Sparklers - 10" (96 pcs. \$3.50)		3.50	
		24	100-shot Magical Barrage	5.50	55.00				58	Sparklers - 14", Morning Glories (144 pcs. \$10.50)		10.50	
		25	Frightened Bird	3.35	35.00				59	Sparklers - 20" (12 to box)	8.00	80.00	
		26	Soiree	4.00	40.00				60	Black Snakes - 72 snakes \$2.00, 288 snakes \$6.00		2.00	
		27	News Transmitter	3.50	35.00						EACH	DOZ.	
		28	Kaleidoscope	3.50	35.00				61	No. 3 Assorted Colors Cone - 7" Fountain	.90	9.00	
		29	Garden-in-Spring	5.25	52.00				62	Jumbo Carnival Cone	1.75	18.00	
		30	96 shot Colored Pearl	8.00	80.00					Roman Candles	DOZ.	GROSS	
		31	48 shot Colored Pearl	3.50	35.00				63	Roman Candle - 5 shot	4.50	50.00	
		32	Box of 12 Festival Balls	12.00	120.00				64	Roman Candle - 8 shot	6.00	60.00	
		33	Double Night Parachute	.55	5.50				65	Roman Candle - 10 shot	8.00	80.00	
		34	Single Parachute w/crackers	.65	6.50					Assortments	EACH	DOZ.	
		35	Marching Cicada (61 4-inch firing tubes)	15.95	159.95				66	Mad Hornet Assortment Box - \$30.00 value	20.00	200.00	
									67	Black Hornet Assortment Box - \$40.00 value	25.00	250.00	
									68	Scott's Giant Family Bag - \$60.00 value	45.00	450.00	
										Add Minimum Freight Costs \$5.00			5.00
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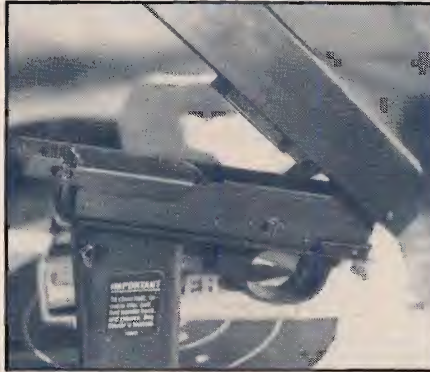
Marlin Model .45 Carbine

(Continued from page 75)

This is because the bolt is quite light, about 14 ounces and the recoil spring is smaller than that used in .45 auto pistols. The bolt thus moves rearward quite fast, slamming into a nylon recoil buffer at the receiver's rear.

This ain't all bad, however, because the lightweight action allows use of recoilless (and quiet) handloads for limited-range plinking or covert operations. Some of my handloads, built with tiny Lee cast slugs weighing 173 grains, pooped out the barrel at only 747 feet per second (fps); this load was so light it wouldn't function the slide on my Smith & Wesson Model 645 auto pistol. Such loads won't attract unwelcome attention, or penetrate all the walls in your home.

The drawback to a light action is that heavy handloads won't work well. Instead of beating the Model .45 to death, you're better off staying at sane load levels with normal-weight slugs, trying for high velocity only with light bullets as shown in the accompanying chart.



Pushing out one pin breaks the action open.

An oddity is that some factory ammo actually shot faster in our short-barreled S&W 645 than in the longer Marlin, military hardball and Federal target ammo being two examples. This is because the fast-burning powder used in some cartridges burns almost completely in short barrels, and without continuing thrust



Rear sight's small notch is adequate for most brush gunning. Front sight's Wide-Scan hood protects the bead from damage in field use.

Ballistic Data: Marlin .45 ACP Carbine

Factory ammo: Bullet weight in grains; Velocity and energy measured with an Oehler Model 33 Chronotach and Skyscreen III detectors, five feet from muzzle. Figures in parentheses are ballistics of that same load in a Smith & Wesson Model 645 pistol with 5-inch barrel.

Cartridge	Bullet	Velocity, fps	Energy, ft.-lbs.
CCI Blazer	200 JHP	999 (879)	444 (343)
CCI Blazer	230 FMJ	840 (830)	359 (352)
CCI Lawman	200 JHP	1,066	504
Federal	185 SWC Target	694 (883)	196 (320)
Gov't Hardball	230 FMJ	788 (827)	315 (349)
Hydra-Shok	230 Lead	980	490
Remington	230 FMJ	846 (845)	364 (363)
Samson (Israel)	185 JHP	1,016	424
Military Industries)	230 FMJ	837	357
Winchester Silvertip	185 JHP	1,078 (943)	479 (365)

Selected handloads for the Marlin carbine. Cast bullet weights with lube applied. Powder in grains. Winchester Large Pistol primers. Mixed, used cases with medium roll crimp applied. Parentheses shown S&W Model 645 data for the same load.

Bullet	Powder, grains	Velocity, fps	Energy, fpe
Lee 173-gr. (cast hard)	4.0 Winchester -231	747 (598)	213 (136)
"	5.0 Winchester -231	901 (750)	311 (215) Mild!
"	5.6 Winchester -231	996 (863)	381 (286) Mild!
"	6.2 Winchester -231	1,141 (897)	499 (308) Plinker load
"	6.8 Winchester -231	1,224 (1,023)	575 (402) Low recoil
"	8.0 Hodgdon Trap 100	1,403 (1,209)	773 (575) MAX LOAD!
185 gr. Sierra JHP	8.0 Unique	1,197 (1,079)	588 (479) MAX LOAD!
200 gr. Speer JHP	5.7 Winchester -231	897	356 Mild!
"	6.0 -231	949	400 Mild!
"	6.3 -231	991	435 Mild!
"	6.5 -231	1,022	464 Varmint load
"	5.5 Hodgdon HP38	808	288 Mild!
"	6.5 Unique	962	410 Varmints
"	7.0 Unique	982 (941)	428 (392) Mild!
"	7.5 Unique	1,038 (982)	478 (428) Defense
225 gr. cast Lyman	6.0 Unique	925	426 Mild!
"	6.5 Unique	1,012	511 Mild!
"	7.0 Unique	1,111	615 Pot meat
"	8.5 HS6	1,045 (875)	546 (383) Mild!
"	10.5 Hodgdon HS7	1,169	683 Nice load
"	4.0 Bullseye	845 (729)	356 (265) Mild!
"	4.5 Bullseye	937	438 Mild!
"	5.0 Bullseye	1,009 (870)	508 (378) Small game
"	5.5 Bullseye	1,054	555 Max
"	5.0 Winchester -231	954	454 Mild!
"	5.5 -231	1,026	525 Small game

behind it the bullet actually starts slowing down from friction drag.

Accuracy was good with our test carbine, but small targets at extended ranges were blocked by the chubby front sight bead. The Aimpoint 2000 straightened that out, as mentioned, and allowed us to shoot two-inch groups at 40 yards, firing offhand. As a suggestion, for rapid target acquisition (as in serious social occasions) the basic Aimpoint without 3-power extender is the best bet. Screw the scope attachment on for varmint and pot meat hunting (or sniper work).

Our only complaint with the test rifle is that it chucked spent cases as far away as 12 yards to the right-front. The recoil spring guide rod's front portion serves as the ejector; perhaps trimming this back slightly would cut down on spent case launch velocity.

If you reload, this'll be a problem without some way to catch the brass. During velocity testing we hung a large plastic tarp from tree branches, so it would intercept the orbiting cases. That works dandy. For field use, Blazer 200-gr. JHP non-reloadable ammo is the best bet, and one of the most potent loads we tested.

All things considered, the Marlin Model 45 fills a welcome gap between the .45 auto pistol and expensive assault-type weapons. It would serve well as a home defense weapon, a gravel pit fun machine, or as a hunting trip weapon to fill the evening stew pot. ●

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